

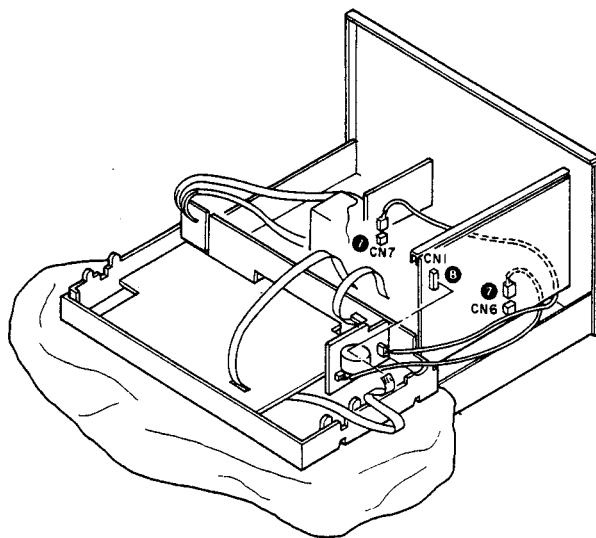
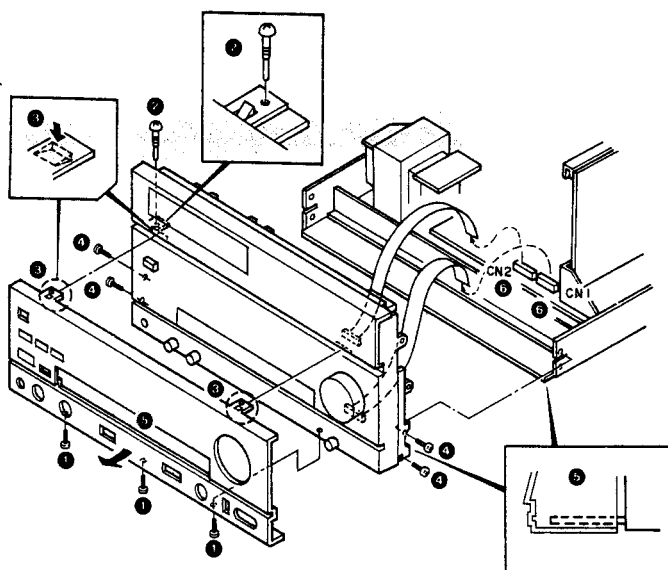
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## DISASSEMBLY FOR REPAIR

### Removing the front panel

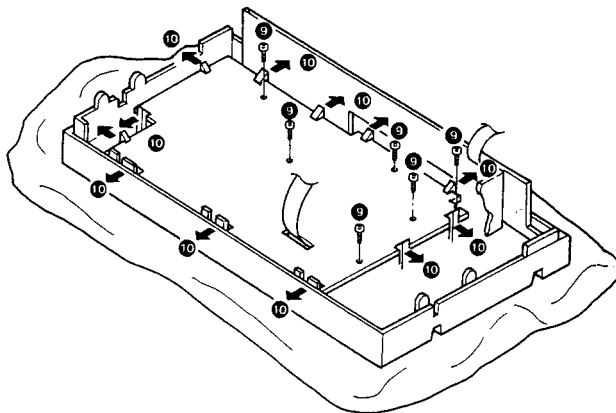
1. Remove the case prior to the following.  
Remove the 3 screws **1** from the lower part of the front panel.
2. Remove the GND screw **2** attached to the front panel and tuner panel.
3. To remove the amplifier front panel, pry out the bottom side of the panel and the claws **3** of the sub chassis can be disengaged easily.
4. Remove the 4 screws **4** from the left and right of the sub-panel and bottom chassis.
5. Remove the panel. When removing, pay attention to the bottom chassis engaged with the lower part of panel.
6. Disconnect connectors CN1 and CN2 **6** on the (X09-) (A/5) unit.
7. Disconnect connectors CN6 and CN7 **7** from the (X09-) (A/5) unit.
8. Disconnect connector CN1 **8** from the (X05-) unit.



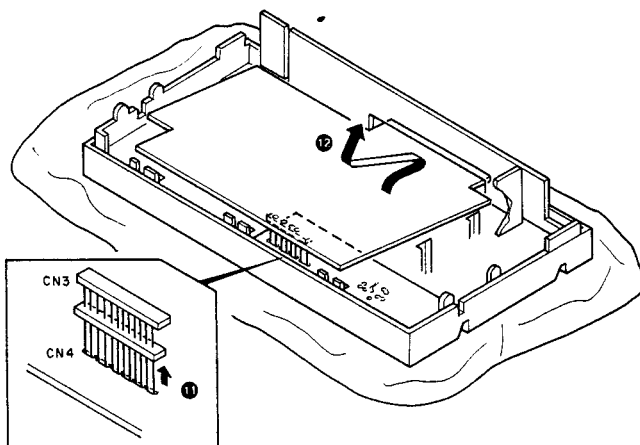


## DISASSEMBLY FOR REPAIR

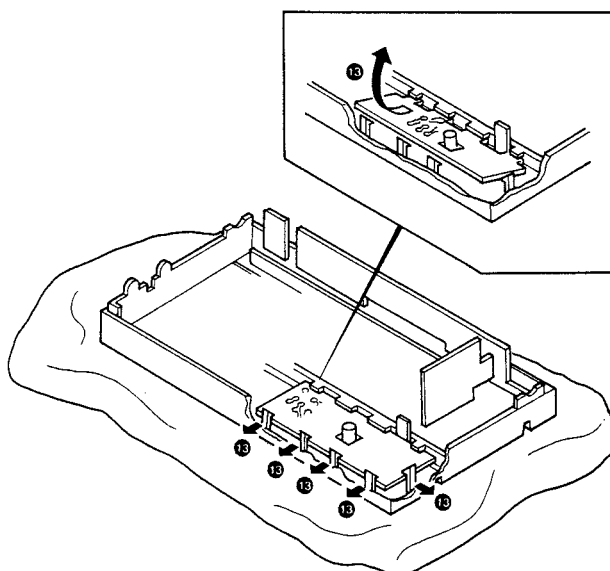
9. Remove the 6 screws **9** from the (X14-) (A/6) unit.
10. Disengage the 12 claws of the sub-panel from the (X14-) (A/6) unit **10**.



11. Disconnect connector CN3 from the (X14-) (A/6) unit and connector CN4 from the (X14-) (B/6) unit **11**.
12. Take out the (X14-) (A/6) unit in the direction of the arrow **12**.



13. Disengage the 5 claws **13** of the sub-panel from the (X14-) (B/6) unit, and take it out in the direction of the arrow.

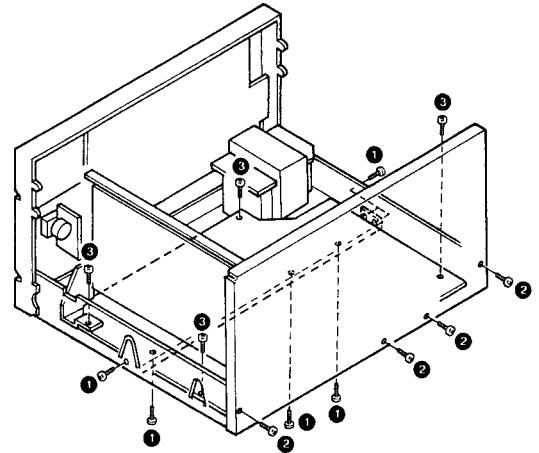


# R-42/L/XL

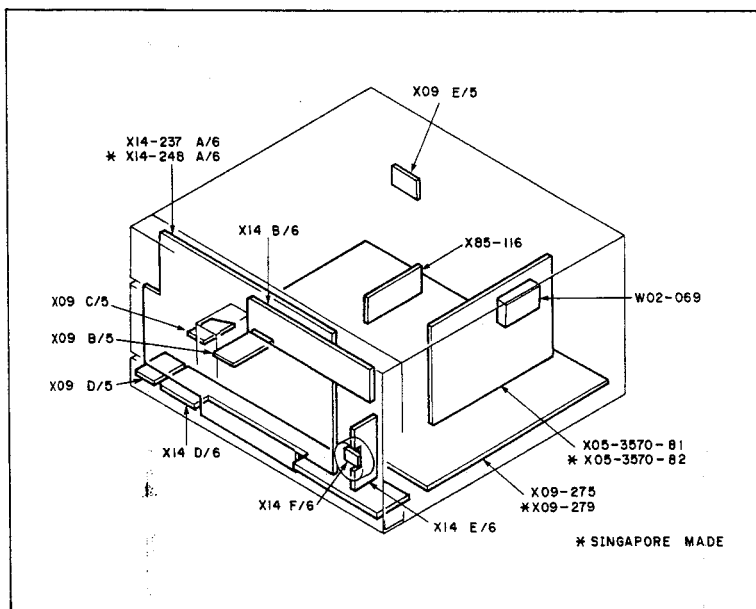
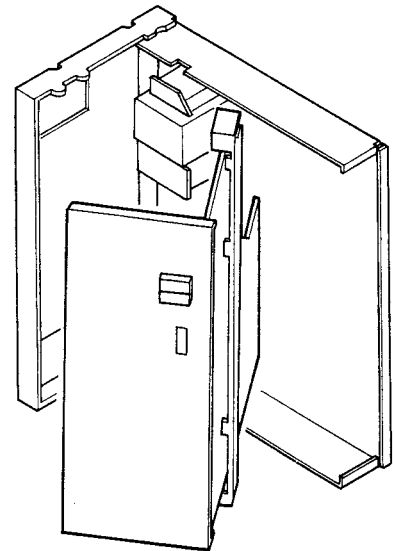
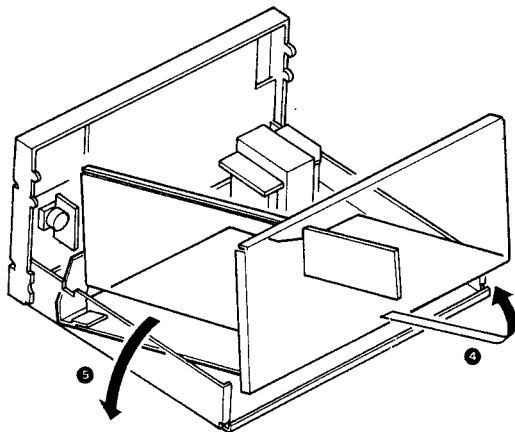
## DISASSEMBLY FOR REPAIR

### Removing the Main Unit

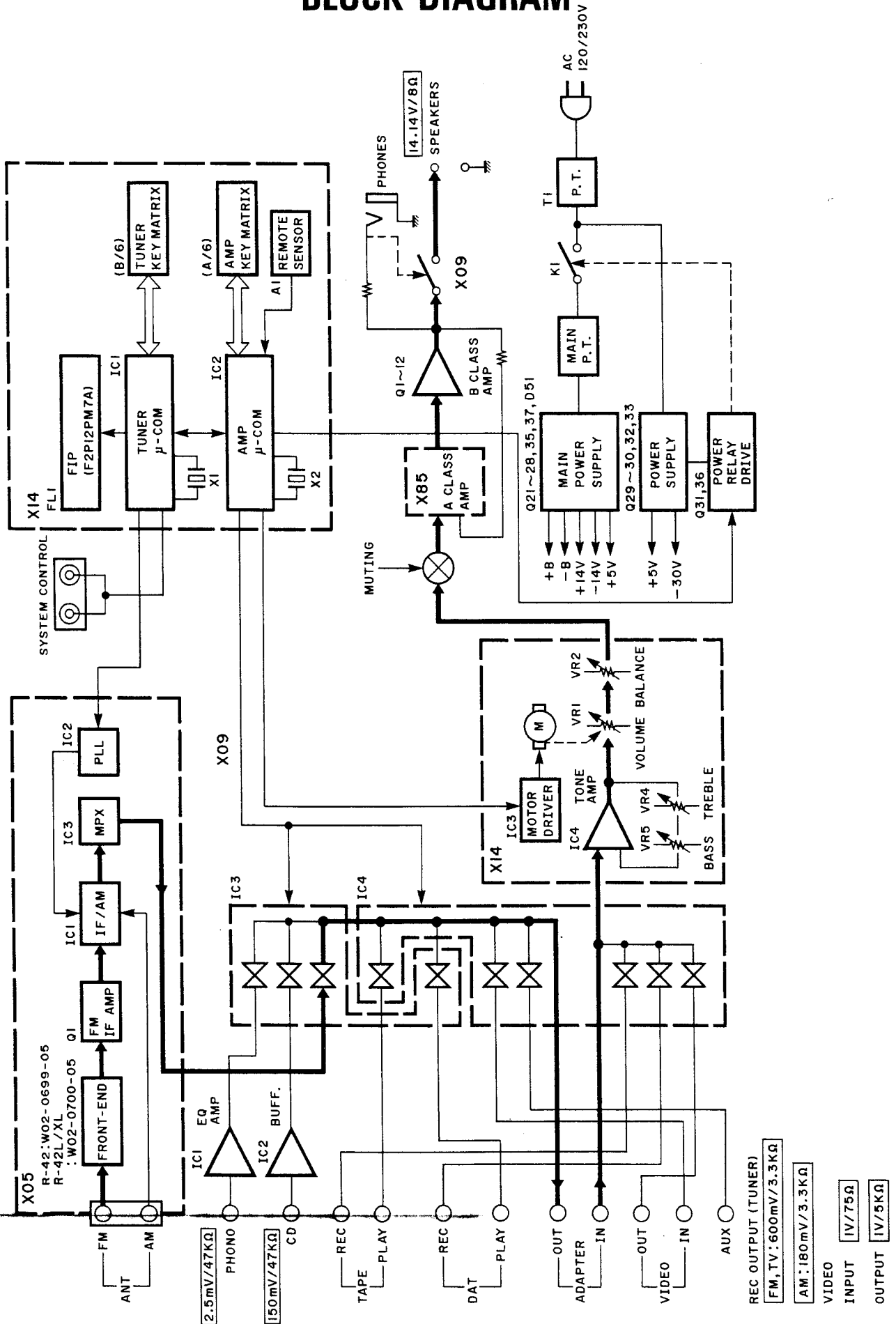
1. Remove the 3 screws from the left and right of the unit, and remove the 3 screws from the bottom panel **1**.
2. Remove the 4 screws **2** from the rear panel.
3. Remove the 4 screws **3** from the (X14-) (A/6) unit.
4. Take out the Main Unit in the direction of the arrow.
5. Stand the whole of the set in the direction of the arrow.



Service the unit by standing its shown in the illustration.



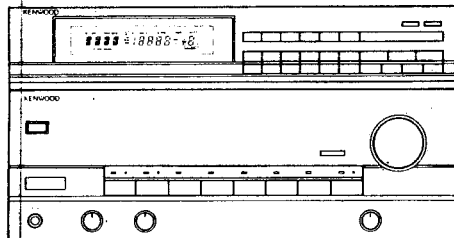
## BLOCK DIAGRAM



## Before operation

### MIDI M-422/M-32 SYSTEM COMBINATION

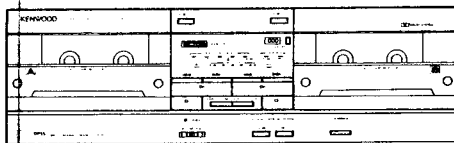
R-42 (for M-422 system)  
Tuner - Amplifier R-42L (for M-32 system)



In some areas, the system also includes the following equipment as standard components. Please check your system.

- Turntable M-42
- CD Player DP-320
- Graphic Equalizer GE-420
- Speakers S-622

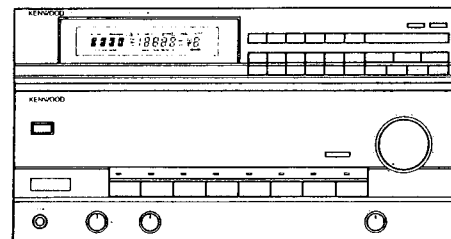
Cassette deck X-42



## Before operation

### MIDI M-42 system combination

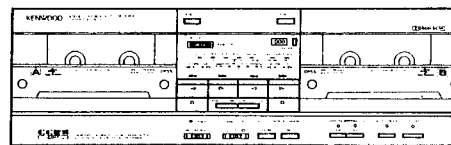
Tuner - Amplifier R-42XL



In some areas, the system also includes the following equipment as standard components. Please check your system.

TurnTable P-42

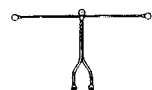
Cassette deck X-82



## Accessories

After unpacking the product carton, first check that all of the following components are present (they are packed together with the amplifier). For future transport in case of servicing, etc., be sure to retain the carton and other packing materials.

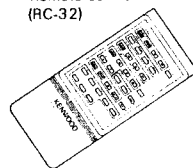
T-type (FM) feeder antenna x 1



Battery ("AA" or "R6") x 2



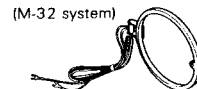
Remote control unit x 1 (RC-32)



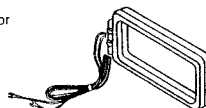
Loop antenna holder x 1



Loop antenna x 1 (M-32 system)



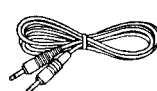
(M-422 system)



Audio cord x 2



System control cord x 1



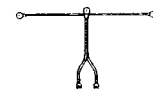
75  $\Omega$ /300  $\Omega$  Antenna adaptor x 1



## Accessories

After unpacking the product carton, first check that all of the following components are present (they are packed together with the amplifier). For future transport in case of servicing, etc., be sure to retain the carton and other packing materials.

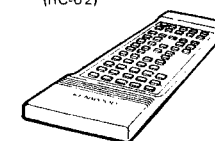
T-type (FM) feeder antenna x 1



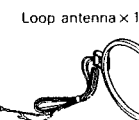
Battery ("AA" or "R6") x 2



Remote control unit x 1 (RC-62)

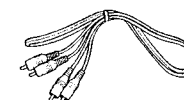


Loop antenna holder x 1

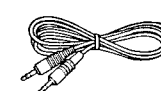


Loop antenna x 1

Audio cord x 2



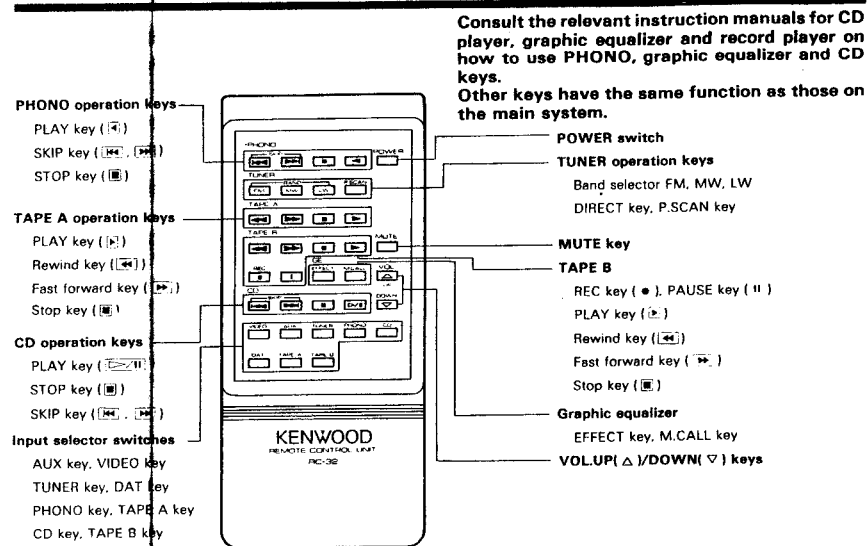
System control cord x 1



75  $\Omega$ /300  $\Omega$  Antenna adaptor x 1



## Remote control unit (RC-32)

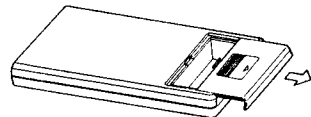


### Notes:

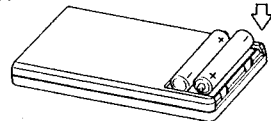
1. Leave about 1 second between successive key operations, and press keys firmly.
2. Pressing one key immediately after another can result in faulty operation.
3. Turntable P-42 is not operated with this unit.

### ■ Loading batteries into the remote control unit

1. Slide open the battery cover.



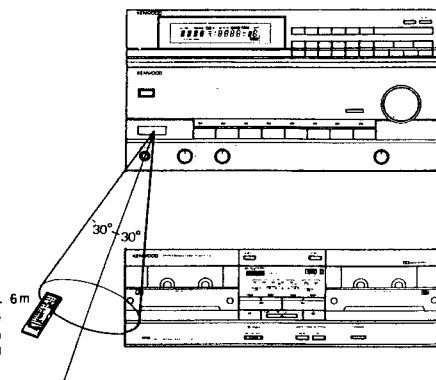
2. Insert 2 batteries (AA or R6) taking care over the polarities (+, -) of each, and close the battery cover.



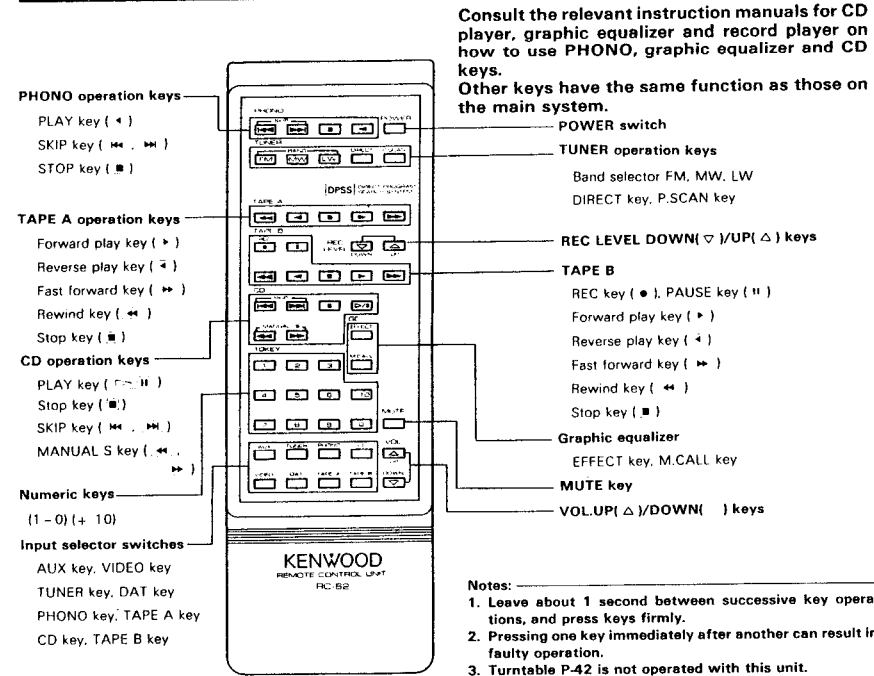
**Note:**  
The batteries provided are for checking the remote control unit. Their service life may be short. When the remote control distance becomes short, or when the remote control does not function, replace both of the batteries.

### ■ Operable range of the remote control unit

The operable range may vary depending on temperature, humidity, use, location etc., but it is roughly specified as in the figure.



## Remote control unit (RC-62)



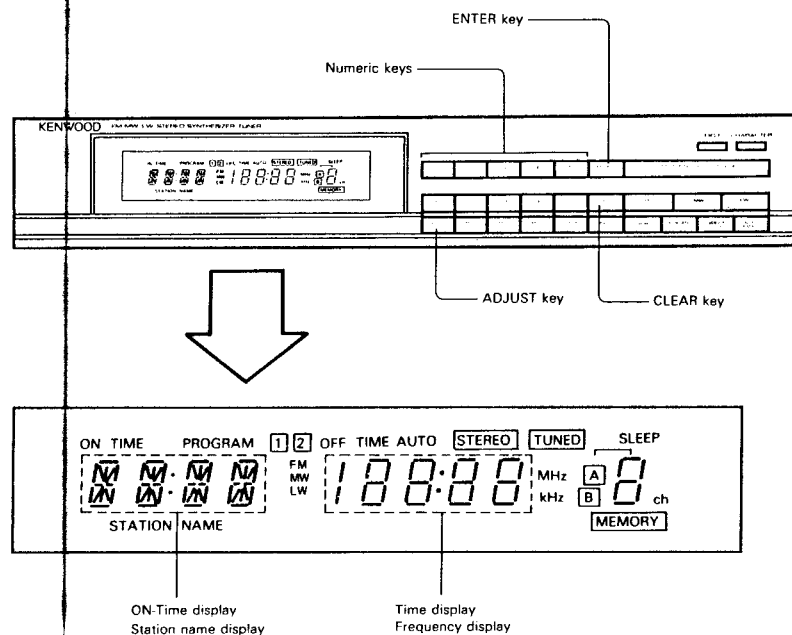
### Notes:

1. Leave about 1 second between successive key operations, and press keys firmly.
2. Pressing one key immediately after another can result in faulty operation.
3. Turntable P-42 is not operated with this unit.

OPERATION

R-42/L/XL

## Time adjustment with tuner



To adjust to 9:05 AM:  
Enter in the order 0, 9, 0, 5.

09:05

To adjust to 4:50 PM:  
Enter in the order 1, 6, 5, 0.

16:50

### How to adjust the time

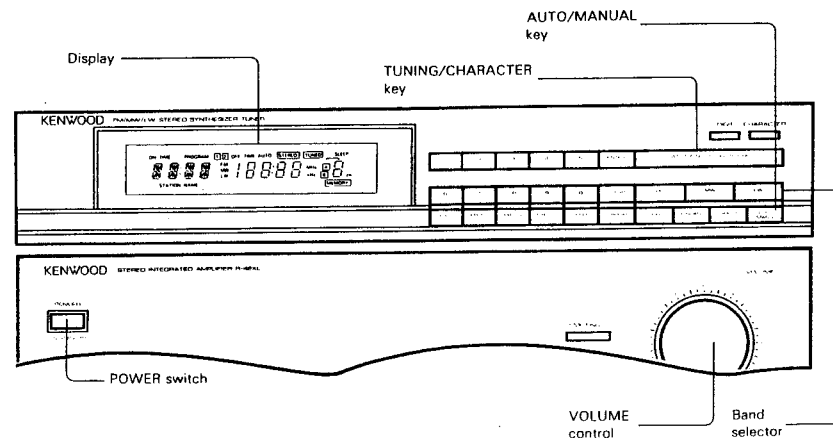
With the power plug is connected, the time display blinks irrespective of the whether the POWER switch is ON or OFF. Set the present time as follows.

1. Press the ADJUST key.
2. Input the time with the numeric keys while watching the display.
  - If a wrong digit is input by mistake, press the CLEAR key, and start inputting again from step 2.
3. Press the ENTER key.
  - To get the accurate time, first perform steps 1 and 2, and press the ENTER key when the time is announced on the radio, etc.

#### Notes:

1. When the number of preset stations has been set to 20, the time is displayed on the left side of the display. However, the time adjustment procedure is the same in all cases.
2. When the power supply fails or the power plug is disconnected after the time has been set, the time display blinks. In this case, adjust the time again.

## Listening to broadcasts



### How to listen to broadcasts

1. Press the POWER switch ON.
2. Press one of the TUNER's band selectors; FM, MW or LW.
  - When you have selected the broadcast band you want, the amplifier's input selector switch is set to TUNER simultaneously.
3. Broadcasting stations are received according to the following selection procedure.
  - MUTEING is operated during station select, so there is no sound. When a station has been tuned in the sound is resumed, so take care over the volume control.
4. When you have tuned in the station you want, adjust to the desired volume with the amplifier's VOLUME control.

### Station tuning

#### AUTO tuning

Stations from high to low frequency, or in the reverse direction can be searched and captured simply by pressing the TUNING/CHARACTER key. When tuning in to FM, STEREO/MONOAURAL reception is switched automatically.

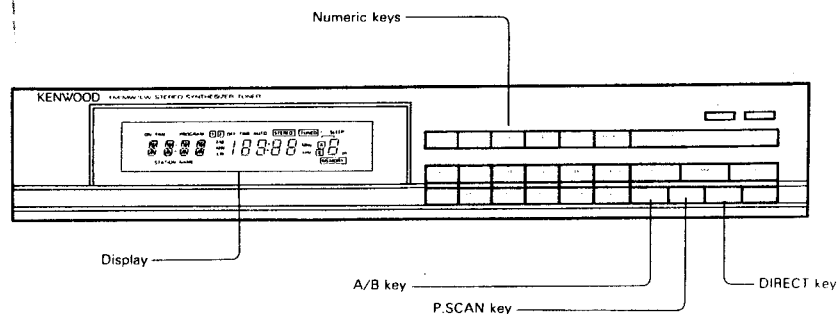
1. Press the AUTO/MANUAL key so that the AUTO indicator is lit.
2. Press the TUNING/CHARACTER key either on the UP or DOWN side.
  - When the UP key is pressed, the frequency display changes towards the higher frequencies. Press the DOWN key to search and capture in the reverse direction.
  - When a station is tuned in, the frequency display stops, and the frequency of the station you are receiving is indicated.
3. If the station being received is not the one you want, press the TUNING/CHARACTER key again.
  - Keep the key pressed until you reach the desired station.

#### MANUAL tuning

If the case of weak reception it may not be possible to auto tune for the station you want. In this case manual tuning can be carried out, although noise is pronounced with the switch to monaural.

1. Press the AUTO/MANUAL key so that the AUTO indicator goes OFF.
2. Press the TUNING/CHARACTER key on either the UP or DOWN side.
  - The display frequency changes one step at a time each time the TUNING/CHARACTER key is pressed.
  - If you keep the TUNING/CHARACTER pressed, frequency change is continuous.
3. Release the TUNING/CHARACTER key as soon as you reach the frequency of the station you want.
  - If you are not perfectly tuned in to the station there will be noise. Make fine tuning adjustment with UP/DOWN.





### ■ DIRECT station select

Station selection can be carried out directly with the numeric keys for the station frequency you want without using the TUNING/CHARACTER keys.

1. Press the DIRECT key.
  - The frequency display goes OFF, and the unit goes into standby mode.
2. Input the frequency for the radio station you want with the numeric keys.
  - If you input the wrong digit, press the CLEAR key and start inputting again.
  - When input is complete as shown in example below, the tuner automatically switches to reception mode.

#### Numeric key input

FM 101.00 MHz ..... 1 → 0 → 1 → 0 → 0  
 AM 810 kHz ..... 8 → 1 → 0  
 AM 1242 kHz ..... 1 → 2 → 4 → 2

### ■ How to tune in a preset station

When stations are preset by input of numeric keys according to the instructions "Presetting stations" (see page 22), the station you want can be tuned in with just a one-touch operation.

1. Press the tuner's A/B switch to select A or B.
  - A maximum of 20 presets are possible using the numeric keys (0 - 9) for A, and (0 - 9) for B.
  - When the A/B key is pressed, the display reads either A or B.
2. Press the numeric key for the preset station you want.
  - The frequency of the section you selected is shown on the display, and the station is received.

### ■ Preset scanning

Preset scanning allows you to receive the stations preset (stored) under each of the numeric keys for 5 seconds in sequence.

1. Press the P.SCAN key
  - Each of the preset station frequencies is received for 5 seconds in sequence. When a frequency is not stored under a key, the next frequency in the sequence is received. Preset channel scanning starts from the next channel if it is activated during reception of any one of the preset channels; if not scanning begins from channel A-1 (see figure below).

(A-1) → A-2 ..... A-9 → A-0 → B-1 → B-2 ..... B-9 → B-0

A-1 → A-2 ..... A-0 → B-1 → B-2 ..... B-0

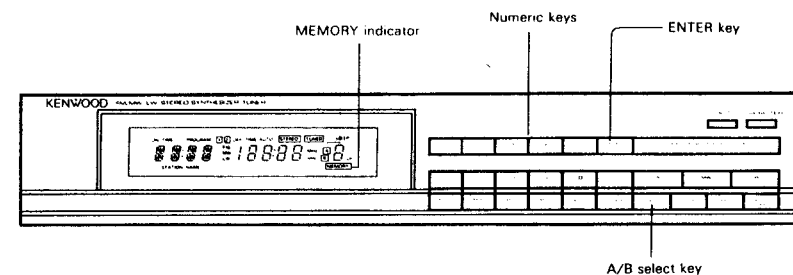
Station names in brackets ( ) represent the time station names are not displayed.

2. To release preset scanning, press the P.SCAN key again.
  - Reception of the station at the time of P.SCAN release is maintained.

## Listening to broadcasts

### Presetting FM, AM (MW, LW) broadcasting stations

This unit enables presetting of the broadcast station frequencies and station names, both of which are displayed when preset station select is called.



### ■ Before presetting

The number of possible station presets differs when presetting frequency only and when the station name is displayed. First set the STATION NAME AND PRESET switch on the rear panel to one or the other.

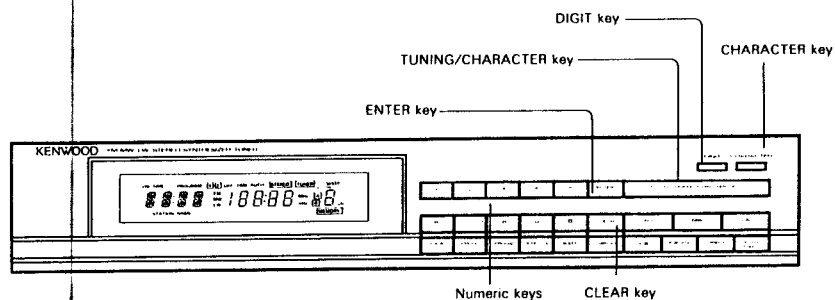
	When frequency alone is displayed (station name not displayed)	When station name and frequency is displayed
Possible No. of preset stations	FM, AM (MW, LW) (Total : 20 Stations) A: 1 - 0 (10 Stations) B: 1 - 0 (10 Stations)	FM, AM (MW, LW) (Total : 12 Stations) A: 1 - 6 (6 Stations) B: 1 - 6 (6 Stations)
Rear panel switch setting	PRESET 12 PRESET 20 STATION NAME AND PRESET	PRESET 12 PRESET 20 STATION NAME AND PRESET (Setting before shipment)

### ■ Broadcasting frequency presetting

1. Select the broadcasting station you want (FM, MW, LW) by pressing the band selector.
2. Tune in the station you want in accordance with the "Station tuning" section.
3. Press the ENTER key.
  - The display's MEMORY indicator lights.
4. Press the numeric keys (1 - 0) for the preset you want within 5 seconds of pressing the ENTER key.
  - If 5 seconds has elapsed since you pressed ENTER, perform steps 3 and 4 again.
  - If you press a numeric key for a previously input preset, contents change to the new preset.
5. Preset up to 10 broadcasting stations under the numeric keys (1 - 0) by repeating steps 1 - 4.
  - When either the A or B group is full, press the A/B switch and start presetting numeric keys from the one that isn't.

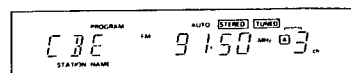
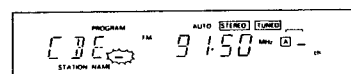
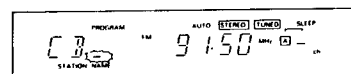
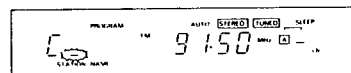
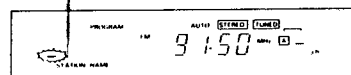
#### Notes:

1. First remove the power plug of the tuner amp section before operating the STATION NAME AND PRESET switch on the rear panel.
2. If you should carry out the above operations again after once presetting, the contents of previous presets are erased.
3. When there is a STATION NAME display, numeric keys 7 - 0 cannot be preset.



The character display changes as shown in the figure, each time the TUNING/CHARACTER key is pressed.

→A→B→C →Z→0→1→2→3.....9  
Space position



### ■ Presetting station names and frequencies

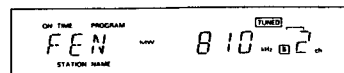
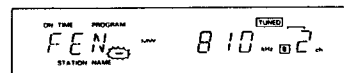
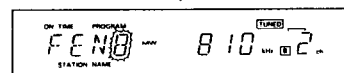
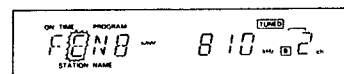
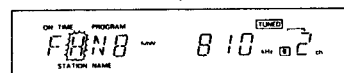
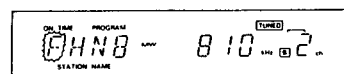
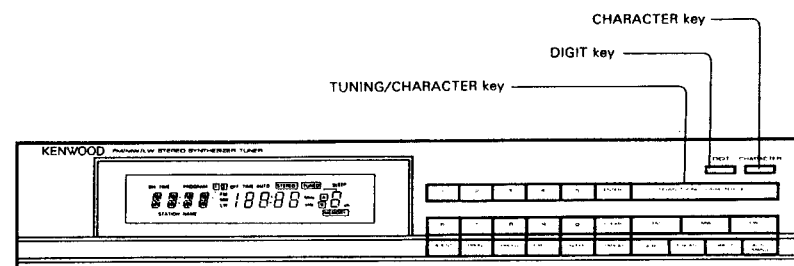
Check that the STATION NAME AND PRESET switch on the rear panel is set to 12.

#### Input example

When receiving FM 91.5 MHz with the input characters [C B E] under the preset A-3.

1. Tune in FM 91.5 MHz.
2. Press the CHARACTER key.
3. Press the TUNING/CHARACTER key to select "C".
4. Press the DIGIT key.
5. Press the TUNING/CHARACTER key to select "B".
6. Press the DIGIT key.
7. Press the TUNING/CHARACTER key to select "E".
8. Press the DIGIT key.
9. Press the CHARACTER key.
10. Press the ENTER key, then press the numeric key 3.
  - If a wrong character is input by mistake, press the CLEAR key and restart from the 1st character.

### Listening to broadcasts



### ■ Changing station names

#### Example

When changing the station name [FHN8], AM 810 kHz stored under B-2 to [FEN].

1. Select the station with B-2.
2. Press the CHARACTER key.
3. Press the DIGIT key to move to the second column.
4. Press the TUNING/CHARACTER key to select "E".
5. Press the DIGIT key twice to move to the 4th column.
6. Press the TUNING/CHARACTER key to select a space "\_".
7. Press the CHARACTER key.

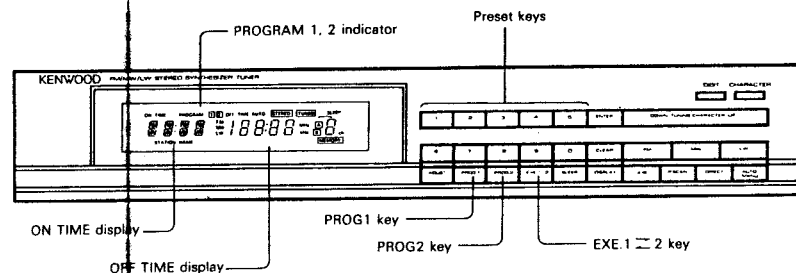
### ■ Last channel memory

When the tuner's band selector is switched (FM, AM (MW, LW)), or when the amplifier's input selector is switched from another source to TUNER, the last received station is recalled (FM, AM (MW, LW)) when the tuner amp power is switched ON.

## Timer PLAY/REC

The tuner section has program timer and sleep timer functions. The program timer carries out timer play and timer recording, and allows you to set timer ON and OFF twice within a 24 hour period.

Once the timer operation is set, the same operation is repeated daily at the same time.



### ■ Timer reception of radio broadcasts

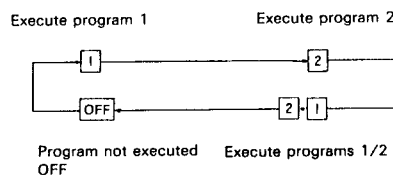
1. If a CD player is connected, first remove the disc from the player.
2. Set the cassette deck's TIMER switch to OFF.
3. Select the preset number for the station you want to receive by the timer.
4. Set the timer program number (1 or 2) ON and OFF time, and input the preset number of the station you want (see "How to set the time of timer" page 35).
  - If the station preset setting is not made, the timer's ON/OFF setting is not completed.
5. Adjust the amplifier's VOLUME control, and set the tone with either the tone controls or graphic equalizer.
6. Press the EXE 1 2 key to designate the timer program number.
  - The designated program number indicator is lit.
7. Press the amplifier's POWER switch to turn the power OFF.
  - Apart from the timer setting, the rest of the display is switched off.

### When the set time is reached

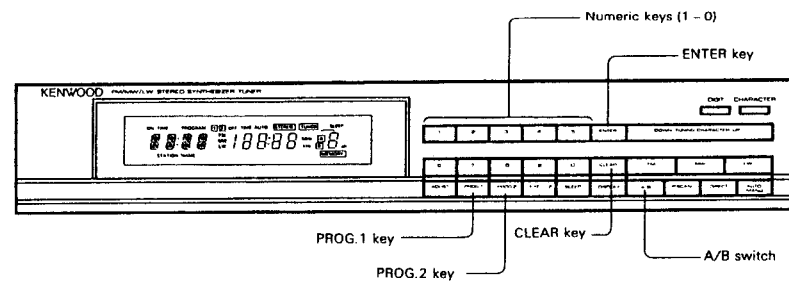
1. The POWER switch is switched ON automatically at the programmed ON time, and the desired station is received.
2. When the programmed OFF time is reached, the POWER is automatically switched OFF.
  - If you want to continue reception beyond the OFF time, press the EXE 1 2 switch before the time comes. The timer program indicator on the display is switched off.
  - When you want to listen to a station after the timer's OFF time, press the POWER switch ON.

### Setting the timer's program number

The display indicators of the program numbers light alternately each time the EXE 1 2 key is pressed, and the program number is set.

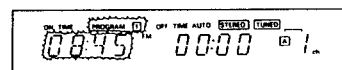


- When not using the timer program, be sure to switch off the program numbers 1 and 2.

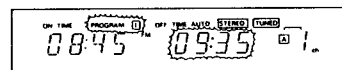


### ■ How to set the timer

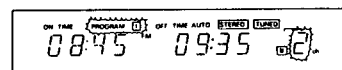
Whichever way you plan to use the timer, operation consists of setting the ON time, OFF time and preset channel.



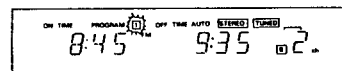
Input 0 - 8 - 4 - 5.



Input 0 - 9 - 3 - 5



Select B with the A/B switch, and select 2 with the numeric keys.



Initial state is resumed after 5 seconds.

### Example

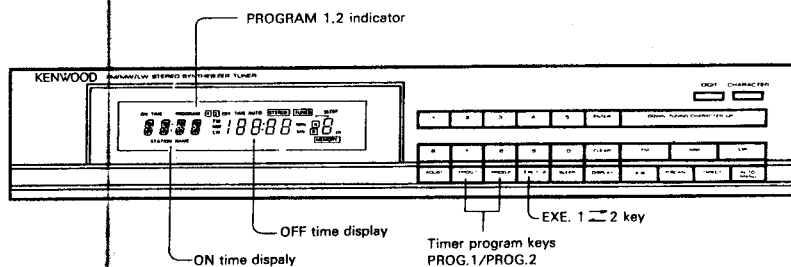
To set ON time "8:45", OFF time "9:35" and preset channel B-2 in PROGRAM 1:

1. Press the PROG.1 key, then the ENTER key.
  - Press the ENTER key within 5 seconds after the PROG.1 key, or the operation is cleared to the initial status.
2. Input the ON time
  - If a wrong input is made by mistake, press the CLEAR key and re-start input from the beginning.
3. Press the ENTER key.
4. Input the OFF time.
  - a wrong input is made by mistake, press the CLEAR key and re-start input from the beginning.
5. Press the ENTER key.
  - In case of timer playback of CD player or tape deck, skip step 6 below and go to step 7.
6. Input the preset channel number.
  - If a wrong input is made by mistake, press the CLEAR key and restart input from the beginning.
  - Some preset channel input must be made even when using for other purpose than broadcast reception.
7. Press the ENTER key.
  - Now, the timer ON time, OFF time operation and content has been set.
  - PROGRAM 2 can be set in the same way.

**Note:**  
If the PROG.1 or 2 key is pressed during setting the program 1 or 2 respectively, the timer setting operation is canceled to the initial status.

OPERATION

R-42/L/XL



### ■ Checking the timer program contents

When the PROG.1 or PROG.2 key is pressed, contents of the program for each are displayed after 5 seconds, and the original status is resumed.

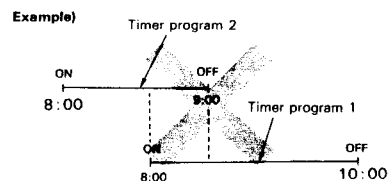
### ■ When the timer function is not used

Press the EXE. 1 2 key so that the PROGRAM indicators ① and ② go out.

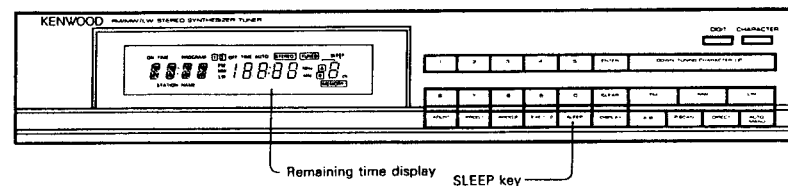
#### Notes:

1. If a timer operation is engaged when the EXE. 1 2 key or the amplifier's POWER switch is pressed, the timer operation will not be performed correctly.
2. Set the times of programs 1 and 2 so that their times do not coincide.
  - When both programs 1 and 2 are set, program 2 will be engaged before program 1.
  - Even when the ON time of program 1 is reached while program 2 is engaged, program 1 will not be activated.
  - When the ON time of program 2 is reached while program 1 is engaged, program 2 will be activated.
3. If programs 1 and 2 are required to be performed continuously, leave one minute between the two programs.  
Example) To receive a 91.5 MHz broadcast for 1 hour from 8 o'clock, then receive a 95.4 kHz broadcast for 1 hour from 9 o'clock, set the ON-time of program 1 to 8:00 and the OFF-time to 8:59, the set the ON-time of program 2 to 9:00 and the OFF-time to 10:00.

4. With the timer function activated (PROGRAM 1 and/or 2 indicator is lit), when the ON-time is reached while listening to a broadcast, the timer operation will be executed and the broadcast will be changed to the one preset by the timer. For this, when recording from the tuner, be sure to check the timer program.
5. The contents of the timer program cannot be canceled. When timer operation is not required, release the timer function according to "When the timer function is not used".



### SLEEP timer function



### ■ Sleep timer operation

The sleep timer can set the remaining time for up to 60 minutes in units of 10 minutes. When the set time has elapsed, power is cut off automatically.

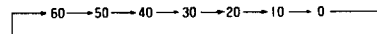
- The sleep timer operates with priority over the timer programs when they are set.

#### Operation procedure

1. Press the SLEEP key once.



Power is cut off when the remaining time display is 0.



2. Afterwards, each time the SLEEP key is pressed, the remaining time is set as in the figure on the left.
  - The display shows the remaining time.

3. To release the sleep timer, press the amplifier's POWER switch OFF once, and ON again.

#### Note:

When the timer display is blinking, the sleep timer does not function. Adjust the present time referring to the section "How to adjust the time" on page 17.

## CIRCUIT DESCRIPTION

## Description of Components

## Tuner Unit (X05-357x-xx)

Ref. No.	Use/Function	Operation/Condition/Interchangeability
IC1 (LA1265)	FM/AM system IC	FM IF and AM MIX IF amplification/detection.
IC2 (LH7001)	PLL IC	Electronic tuning PLL.
IC3 (AN7470)	FM MPX IC	MPX demodulation.
Q1	FM IF amp	10.7 MHz amplification.
Q2, Q3	LP.F	LPF for PLL.
Q4	Buffer	Buffer for L6 (E type only).
Q5, Q6	Emphasis SW	ON for 75 $\mu$ s, OFF for 50 $\mu$ s.
Q7	FM/AM +B SW	ON for FM mode.
Q8	FM/AM +B SW	ON for AM mode.
Q71	AM RF SW	ON for MW mode.
Q72	AM RF SW	ON for LW mode.
Q73	Control	Controls Q74 (ON for LW).
Q74	LPF SW	Switches LPF time constants (Open with LW).
Q75	LW/MW +B SW	ON for MW mode.
Q76	LW/MW +B SW	ON for LW mode.
Q77	MUTE driver	Operates for muting during function switching.
Q78	Control	Controls Q77 based on signal from microprocessor.
Q79, Q80	MUTE	Operates for muting during function switching.

## Audio Unit (X09-275x-xx, X09-279x-xx)

Ref. No.	Use/Function	Operation/Condition/Interchangeability
IC1 (M5218P-A)	PHONO equalizer	M5218P-A.
IC2	Buffer amp	M5218P-A.
IC3, IC4 (TC9163N, TC9164N)	Input selector	TC9163N (IC3), TC9164N (IC4).
Q1~Q4	Predriver	
Q5, Q6	Current limiter	
Q7, Q8	Bias current compensation	
Q9~Q12	Final Tr.	
Q13, Q14	Muting	
Q21~Q26	Constant-voltage supply	$\pm 13$ V
Q27, Q35, Q37	Constant-voltage supply	+13 V (Lamp motor VP).
Q28	5 V constant-voltage	
Q29	CE control	
Q31, Q36	Power relay driver	ON when power is switched ON (Q36 is supplied with M type only).
Q32, Q33	Constant-voltage supply	+5 V (for microcomputer) (Q33 is supplied with M type only).
Q34	Muting driver	ON/OFF of Q13 and Q14.

## CIRCUIT DESCRIPTION

## Display Unit (X14-237x-xx, X14-248x-xx)

Ref. No.	Use/Function	Operation/Condition/Interchangeability
IC1 (CXP5016-311Q)	Microprocessor	
IC2 (CXP5016-313S)		
IC3 (LB1641)	Motor driver IC	
IC4 (NJM4560D-A)	Tone amp	
IC5 (M51951A5L)	Microprocessor reset	
Q1	Channel SW	
Q2	Preset SW	
Q3	Inverter amp	
Q4	Relay predriver	
Q5	Inverter amp	
Q6~Q19	FS display driver	
Q10	DAT Direct lamp driver	
Q11	CD Direct lamp driver	
Q13	FIP driver	
Q14	FIP control	
Q15~Q17	FIP driver	

## Main Amp Unit (X85-1160-00) (X85-1162-71)

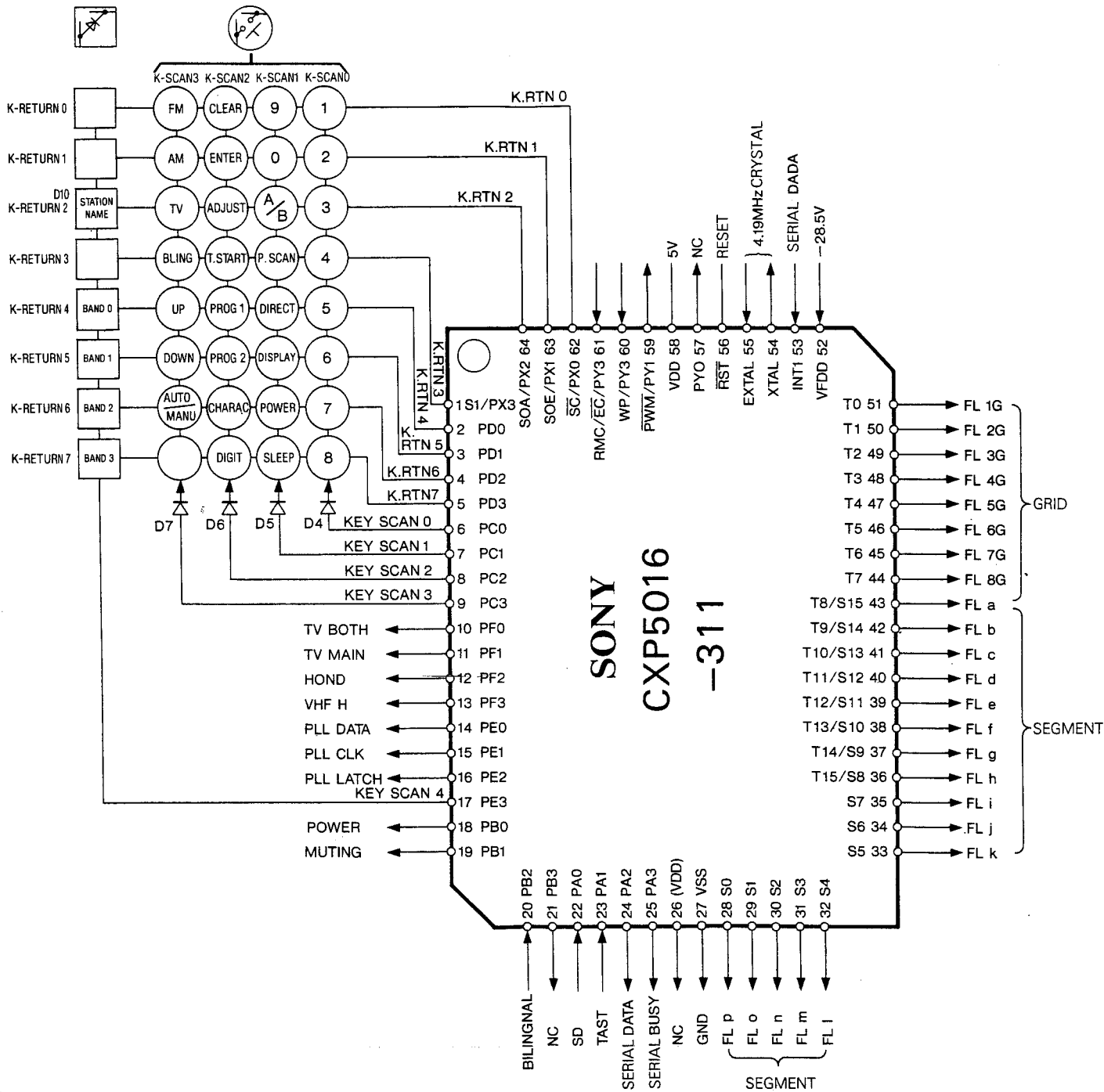
Ref. No.	Use/Function	Operation/Condition/Interchangeability
Q1~Q4	Class A 1st driver amp	
Q5~Q8	Class A 2nd-stage driver amp	
Q9, Q10	Class A current mirror circuit	
Q11	Constant-voltage	
Q12, Q13	Current limiter protection circuit	

R-42/L/XL

CIRCUIT DESCRIPTION

IC1: CXP 5016-311Q (X14-2371-71)

1-1. Key matrix connection



R-42/L/XL

CIRCUIT DESCRIPTION

1-2. Functions of diodes and switches

(0: Without diode, 1: With diode)

Destination Type	Set Switches				Band	Receiving Frequency Range	Inter-Channel Space	Intermediate Frequency	PLL IC1 (LM7001)			$\mu$ -Com IC Port YHFH ⑩	Auto Tuning
	B3	B2	B1	B0					PLL Reference Frequency	PLL Input Terminal	PLL Port BO2 ⑥ BO3 ⑦		
K	1	0	0	0	FM	87.5MHz-108.0MHz	100kHz	+10.7MHz	50kHz	FMIN	H L	L	o
					AM	530kHz-1610kHz	10kHz	+450kHz	10kHz	AMIN	L H	L	o
E1	1	*1	0	0	FM	87.5MHz-108.0MHz	50kHz	+10.7MHz	50kHz	FMIN	H L	L	o
					AM	531kHz-1602kHz	9kHz	+450kHz	9kHz	AMIN	L H	L	o
E2	1	1	0	1	FM	87.5MHz-108.0MHz	50kHz	+10.7MHz	50kHz	FMIN	H L	L	o
					LW	153kHz-281kHz	1kHz	+450kHz	1kHz	AMIN	H H	L	o

- The T-91 Types M, U and UE are modified into Types E1 or K by switching the inter-channel space with the CHANNEL SPACE SW (S31) on the rear panel and by adding a diode (1SS133) for BAND 2. Before switching, turn the AC off (by pulling out the power plug), switch the switch, and turn AC on again. If the AC power is left ON, switching the switch does not change the destination.

1-3. Terminal description

Terminal No.	Symbol	Name	I/O	H/L	Function																
1~5	PX3 PX3, PD0~PD1	KEY RETURN 3~7	I	H	Key return input. All pulled down (10k to 100k)  H: AC ON L: AC OFF																
6~9	PC0~PC3	KEY SCAN 0~3	O	H	Key scanning signals.																
10	PF0	TV BOTH	O	H/L	TV bilingual multiplexed audio mode control terminals. <table><tr><th>Port</th><th>PF0 ⑩</th><th>PF1 ⑪</th></tr><tr><td>Mode MAIN</td><td>L</td><td>H</td></tr><tr><td>SUB</td><td>H</td><td>L</td></tr><tr><td>BOTH</td><td>H</td><td>H</td></tr></table>	Port	PF0 ⑩	PF1 ⑪	Mode MAIN	L	H	SUB	H	L	BOTH	H	H				
Port	PF0 ⑩	PF1 ⑪																			
Mode MAIN	L	H																			
SUB	H	L																			
BOTH	H	H																			
11	PF1	TV MAIN	O	H/L																	
12	PF2	MONO	O	H	Mono/Auto stereo control terminal. Permanently L during TV bilingual reception.  H: MONO L: AUTO STEREO																
13	PF3	VHF H	O	H/L	Band selection control terminal. Selects the band by the combination with BO2 ⑥ and BO3 ⑦ of PLL IC. <table><tr><th>Port</th><th>BO2 ⑥</th><th>BO3 ⑦</th><th>PF3 ⑬</th></tr><tr><td>Mode FM</td><td>H</td><td>L</td><td>L</td></tr><tr><td>AM</td><td>L</td><td>H</td><td>L</td></tr><tr><td>LW</td><td>H</td><td>H</td><td>L</td></tr></table>	Port	BO2 ⑥	BO3 ⑦	PF3 ⑬	Mode FM	H	L	L	AM	L	H	L	LW	H	H	L
Port	BO2 ⑥	BO3 ⑦	PF3 ⑬																		
Mode FM	H	L	L																		
AM	L	H	L																		
LW	H	H	L																		
14	PE0	PLL DATA	O	H	PLL IC data output. Connected to LM7001 DATA ⑤ terminal.																
15	PE1	PLL CLOCK	O	H	PLL IC clock output. Connected to LM7001 CLK ④ terminal.																
16	PE2	PLL LATCH	O	H	PLL IC latch output. Connected to LM7001 CE ③ terminal.																
17	PE3	KEY SCAN 4	O	H	Key scanning signal.																
18	PB0	POWER	O	H	Relay control terminal.  H: POWER ON L: POWER OFF																
19	PB1	MUTING	O	H	Muting control during band switching, frequency acanning, etc.  H: MUTE ON L: MUTE OFF																
20	PB2	BIL	I	H																	
21	PB3	N.C.	O	—	Not used. Pull down with a resistor.																
22	PA0	SD	I	H	Stop signal input for auto tuning.  H: TUNE L: NO SIGNAL																
23	PA1	TEST	I	L	Test mode setting input.  H: NORMAL L: TEST																
24	PA2	SDATA	O	H	System control DATA output.																
25	PA3	SBUSY	I/O	H	System control BUSY input/output.																



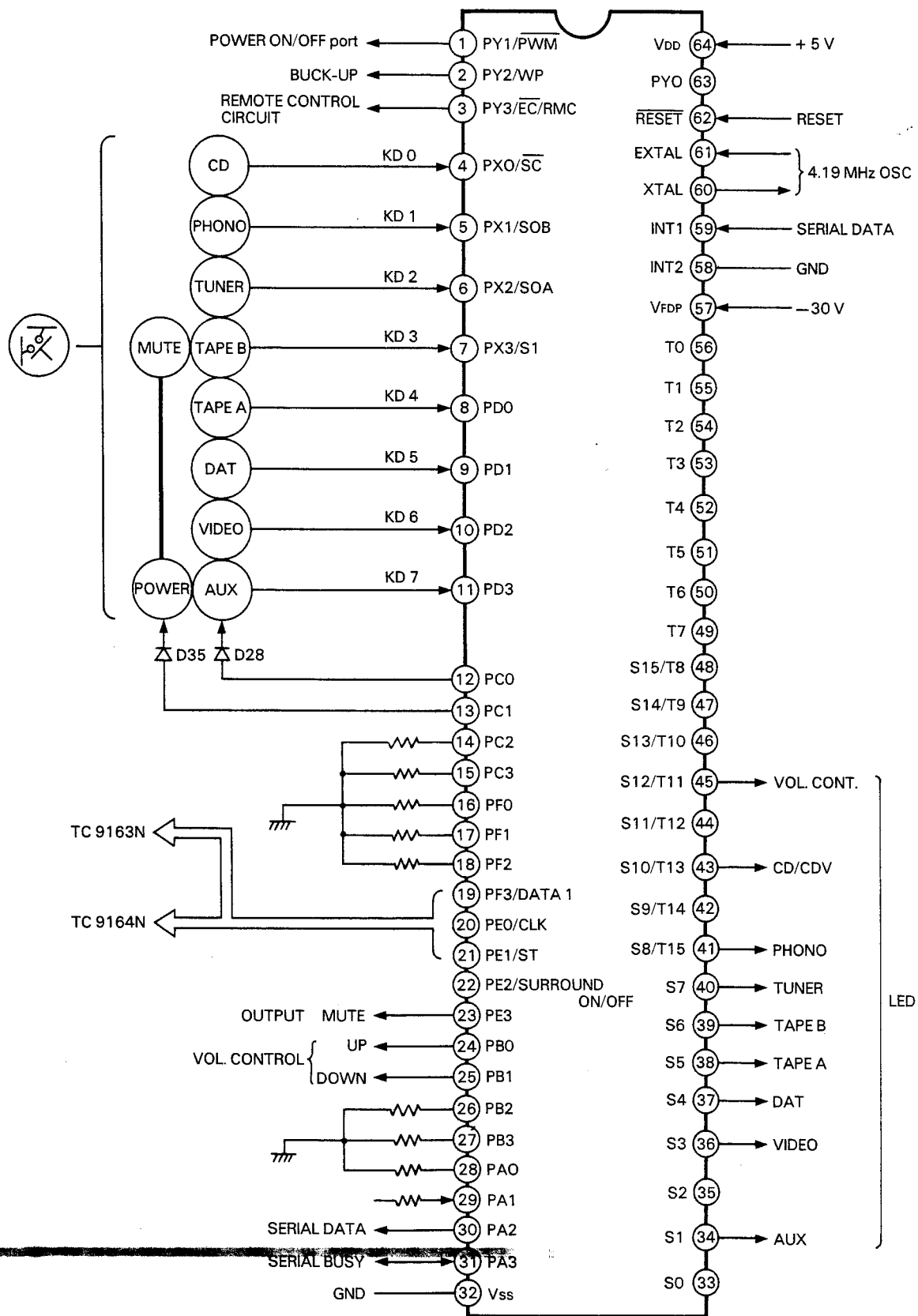
## CIRCUIT DESCRIPTION

Terminal No.	Symbol	Name	I/O	H/L	Function
26	(V <sub>DD</sub> )		I	H	Not used. Connected to V <sub>DD</sub> .
27	(V <sub>SS</sub> )	GND	—	—	GND terminal.
28	S0	p	O	H	FL segment drive terminal (FL segment terminal p)
29	S1	o	O	H	FL segment drive terminal (FL segment terminal o)
30	S2	n	O	H	FL segment drive terminal (FL segment terminal n)
31	S3	m	O	H	FL segment drive terminal (FL segment terminal m)
32	S4	l	O	H	FL segment drive terminal (FL segment terminal l)
33	S5	k	O	H	FL segment drive terminal (FL segment terminal k)
34	S6	j	O	H	FL segment drive terminal (FL segment terminal j)
35	S7	i	O	H	FL segment drive terminal (FL segment terminal i)
36	T15/S8	h	O	H	FL segment drive terminal (FL segment terminal h)
37	T14/S9	g	O	H	FL segment drive terminal (FL segment terminal g)
38	T13/S10	f	O	H	FL segment drive terminal (FL segment terminal f)
39	T12/S11	e	O	H	FL segment drive terminal (FL segment terminal e)
40	T11/S12	d	O	H	FL segment drive terminal (FL segment terminal d)
41	T10/S13	c	O	H	FL segment drive terminal (FL segment terminal c)
42	T9/S14	b	O	H	FL segment drive terminal (FL segment terminal b)
43	T8/S15	a	O	H	FL segment drive terminal (FL segment terminal a)
44	T7	8G	O	H	FL grid drive terminal (FL grid terminal 8G)
45	T6	7G	O	H	FL grid drive terminal (FL grid terminal 7G)
46	T5	6G	O	H	FL grid drive terminal (FL grid terminal 6G)
47	T4	5G	O	H	FL grid drive terminal (FL grid terminal 5G)
48	T3	4G	O	H	FL grid drive terminal (FL grid terminal 4G)
49	T2	3G	O	H	FL grid drive terminal (FL grid terminal 3G)
50	T1	2G	O	H	FL grid drive terminal (FL grid terminal 2G)
51	T0	1G	O	H	FL grid drive terminal (FL grid terminal 1G)
52	V <sub>FDP</sub>				FL-ve power supply (—28.5 V).
	(V <sub>DD</sub> )				
53	INT1	DATA I	I	H	System control DATA input.
54	XTAL	CL 1	—	—	Clock oscillator terminals. X'tal 4.194304 MHz.
55	EXTAL	CL2	—	—	
56	RST	RESET	I	H	Reset signal input. H: NORMAL L: RESET
57	PY0		O	H	Not used. Open (On the PC board, make it capable of being pulled up.)
58	V <sub>DD</sub>				+ B terminal (5 V).
59	PY1	N.C.	O	H	Not used. On the PC board, make it capable of being pulled up using a resistor.
60	PY2	C.E.	I	H	Backup (AC OFF) detection terminal. When L level is detected, the backup condition is set and the clock is stopped. Note: The rise from L to H shall be faster than the rise of reset. H: AC ON L: AC OFF
61	PY3	N.C.	I	—	Not used. Pull down with the GND or a resistor.
62—64	PX0—PX2	KEY RETURN 0~2	I	H	Key return input. All pulled down (10k to 100k) H: AC ON L: AC OFF

## CIRCUIT DESCRIPTION

IC2: CPX5016-313S or -320S (X14-2372-71)

### 2-1. Key matrix connection



# CIRCUIT DESCRIPTION

## 2-2. Explanation of Pins

Pin No.	Pin Name	I/O	Name	Function
1	PY1	O	POWER	POWER ON/OFF port. Goes low when power is ON and high when power is OFF.
2	PY2	I	BUCK-UP	Not used (connected to +5 V)
3	RMC	I	REMOCON	Remote control input pin
4~7	PX0~PX3	I	KD0~KD3	Key scan input port. Active high.
8~11	PD0~PD3	I	KD4~KD7	Key scan input port. Active high.
12~15	PC0~PC3	O	DG0~DG3	Key scan output port.
16	PF0	O	CDV/DAT	For the A-7000, this pin is used as the CDV/DAT select port. CDV is selected when it is low, and DAT is selected when it is high.
17	PF1	O	DATA3	Serial data output port for Selector IC (TC9163N). (A-7000 only)
18	PF2	O	DATA2	Serial data output port for Selector IC (TC9164N). (A-7000 only)
19	PF3	O	DATA1	For the A-7000: Serial data output port for TC9163N. For MIDI series: Serial data output port for TC9163N/TC-9164N.
20	PE0	O	CLK	Serial data clock output port for Selector IC.
21	PE1	O	ST	Serial data S7 output port for Selector IC.
22	PE2	O	SURROUND	Surround ON/OFF and display LED driver port. Goes high when surround is ON, and goes low when it is OFF.
23	PE3	O	MUTE	Muting port. Goes low when muting is ON, and high when it is OFF.
24	PB0	O	F.VOLUP	Front channel volume UP drive port. When it is high, volume level is increased.
25	PB1	O	F.VOLDOWN	Front channel volume DOWN drive port. When it is high, volume level is decreased.
26	PB2	O	R.VOLUP	Rear channel volume UP drive port. When it is high, volume level is increased.
27	PB3	O	R.VOLDOWN	Rear channel volume DOWN drive port. When it is high, volume level is decreased.
28	PA0	I	PROTECTION	Protection input port. (A-7000 only)
29	PA1	I	AUX F/R	AUX front/rear select input port. Rear AUX is selected when it is high, and front AUX is selected when it is low.
30	PA2	O	SDATA	Serial data output port between system components.
31	PA3	I/O	BUSY	Serial data BUSY I/O port between system components.
32	Vss	O		Ground for microcomputer.
33	S0	O	AUX SEL.	Video selector (AUX) and display LED drive port. Turns ON and LED lights when it is high.
34	S1	O	BC/AUX	Selector AUX (EQ) display LED drive port. LED lights when it is high.
35	S2	O	VTR SEL.	Video selector (AUX) and display LED drive port. Turns ON and LED lights when it is high.
36	S3	O	VTR	Selector VCR display LED drive port. LED lights when it is high.
37	S4	O	NAT	DAT
38	S5	O	TAPE A	TAPE A (1)
39	S6	O	TAPE B	TAPE B (2)
40	S7	O	TUNER	TUNER
41	S8	O	PHONO	PHONO
42	S9	O	CDV SEL.	Video selector (CDV) and display LED drive port. Turns ON and LED lights when it is high.
43	S10	O	CDV	Selector CDV display LED drive port. LED lights when it is high.
44	S11	O	R. VOL	Rear channel volume
45	S12	O	F. VOL	Front channel volume
46	S13	O	CD REC	CD REC
47	S14	O	DAT DIRECT RAMP	DAT Direct indicator lamp
48	S15	O	CDV DIRECT RAMP	CDV Direct indicator lamp
49~56	T7~T0			Not used (OPEN)
57	V <sub>FDP</sub>	I		Loading power supply pin
58	INT2			Not used (GND)
59	INT1	I	SDATA	Serial data input port between system components.
60	XTAL	O		Clock generator output port.
61	EXTAL	I		Clock generator input port.
62	RST			Reset signal input, and built-in power ON reset circuit output pin.
63	PY0			Not used (Pull-up)
64	V <sub>DD</sub>			Positive power supply pin of the microcomputer.

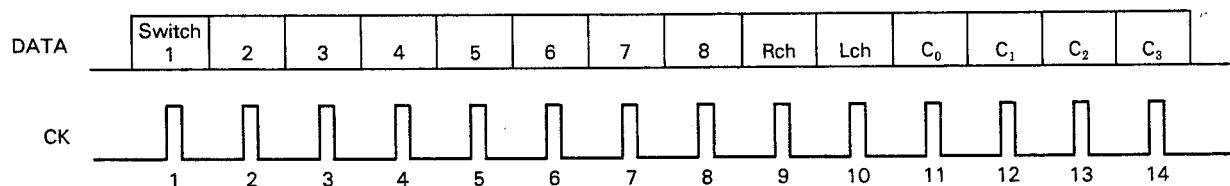
## CIRCUIT DESCRIPTION

### 3. Selector IC Operation

#### Data input

TC9162/63/64N can control each analog switch arbitrarily by inputting the specified data to the DATA, CK and ST

pins. The data consists of 14 bits which are allocated as follows:



Since the 1st ~ 8th bits are corresponding to the analog switches 1 ~ 8, set the bit level to '1' corresponding to the switch to be turned ON. (Note)

The 9th and 10th bits are the left and right channel select bits.

When this bit level is set to '1', the corresponding channel is selected. Therefore, both L/R simultaneous status ('1', '1') or L/R independent status ('1', '0' or '0', '1') can also be set.

The 11th bit to 14th bit are the code bits to be used for chip select.

For example, when TC9162N, TC9163N and TC9164N are used simultaneously, DATA, CK and ST pins are connected commonly and any of TC9162N, TC9163N and TC 9164N can be selected by these code bit data.

Chip select codes are set as follows:

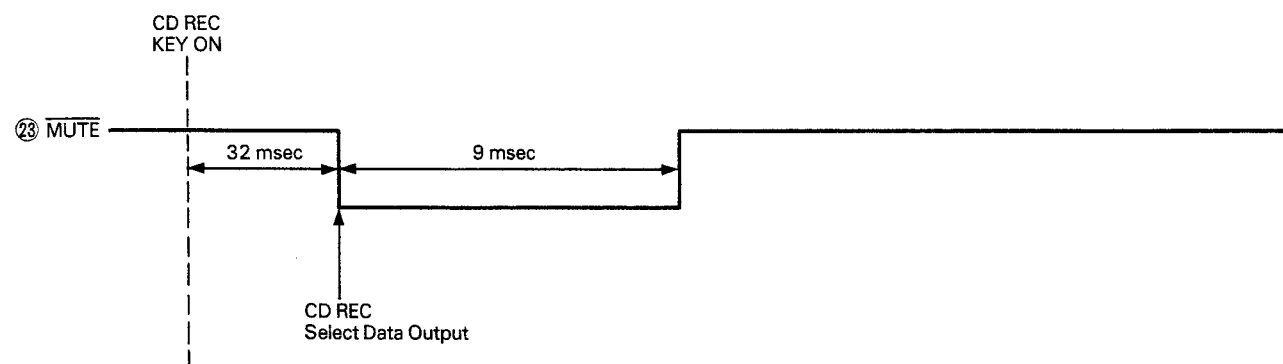
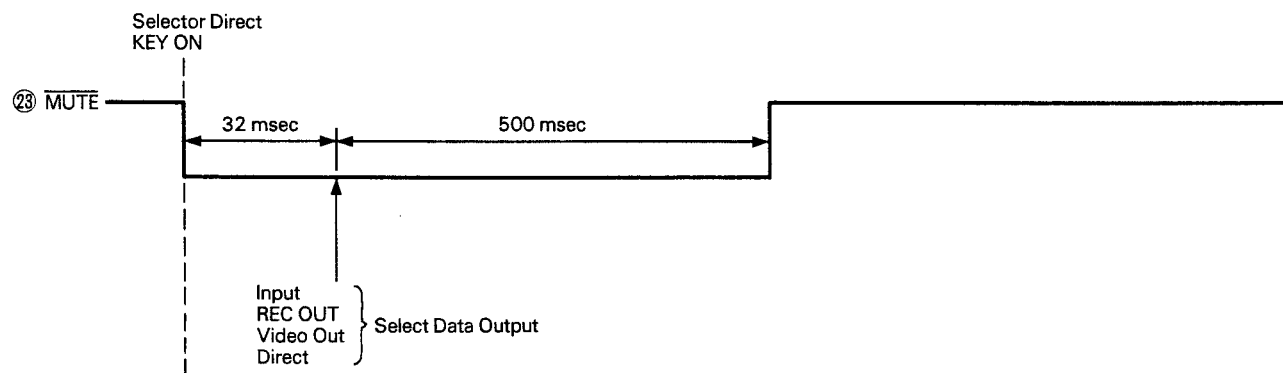
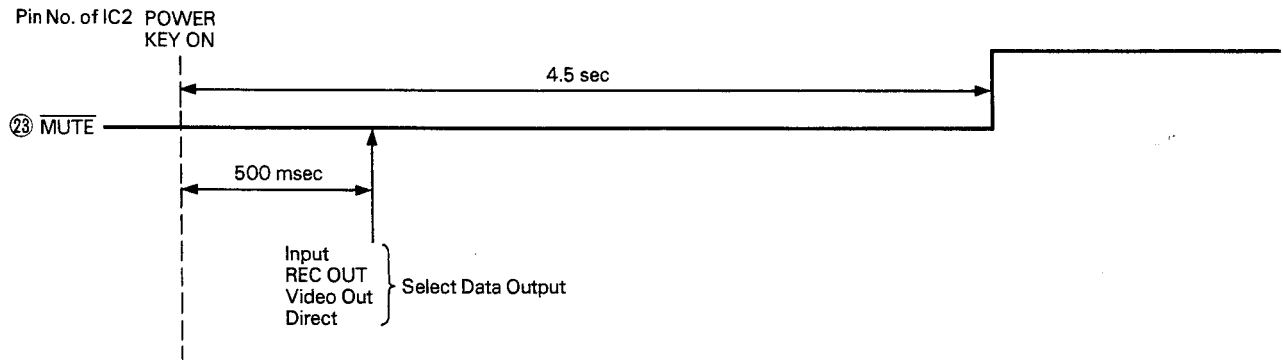
	C <sub>0</sub>	C <sub>1</sub>	C <sub>2</sub>	C <sub>3</sub>
TC9162N	0	0	0	0
TC9163N	1	0	0	0
TC9164N	0	1	0	0

Note: Since TC9162N has the switches of 7 lines, the 8th bit should be set to '0'.

## CIRCUIT DESCRIPTION

## 4. Timing Chart

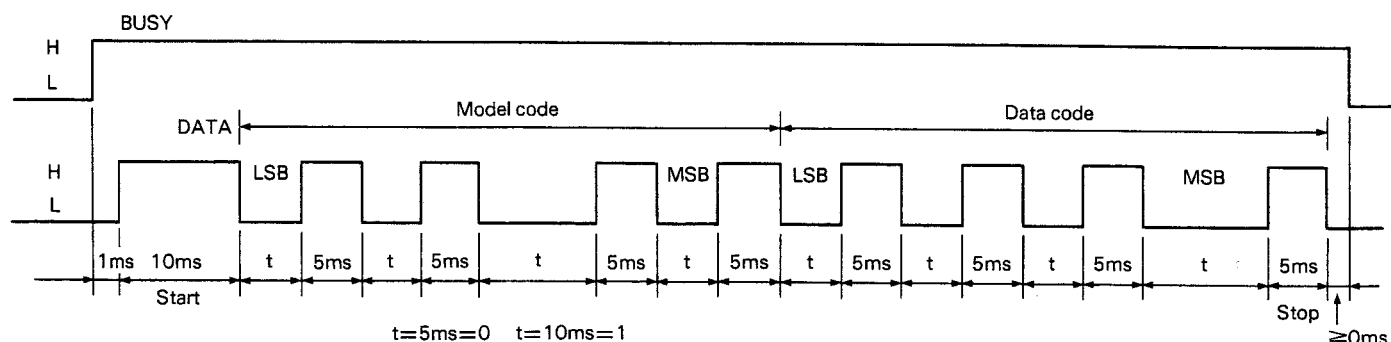
## Muting timing



# R-42/L/XL

## CIRCUIT DESCRIPTION

### 5-1. Explanation of Serial Data Communication



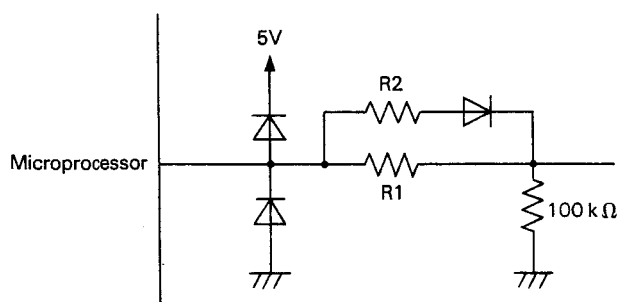
The serial data communication format is defined as shown above, in which the BUSY/DATA 2-wire full-duplex bus is used. 1 word consists of 8 bits, and the most significant 4 bits are defined as the model code of the transmitter (4 = CD player in the above example) while the subsequent 4 bits are defined as the data code (8 = PLAY in the above example). <48H> The high level signal of 10 ms at the beginning of the DATA shows the start of the serial data. Data is determined by the length of L period. It is '0'

when L is 5 ms, and '1' when 10 ms. The high level signal of 5 ms shows the separator of the data. The BUSY signal is inverted to high 1 ms faster than the start of DATA and goes low at the same time or later of the end (stop) of the DATA. The BUSY signal is used so that the DATA output signals do not interfere with each other between components, and should be low level when the serial data is output. If the BUSY signal is high, the data is output until the BUSY signal goes low.

### 5-2. System Connections with serial signals

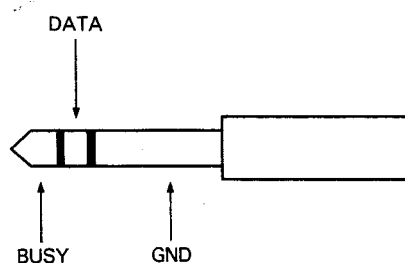
#### Interface circuit

Both DATA and BUSY signals are connected as follows:



#### Connection

DATA and BUSY lines should be connected using stereo mini jacks.



#### Number of stereo mini jacks

Amplifier, Cassette Deck, Tuner, Remote Control	2
CD player, Turntable	1

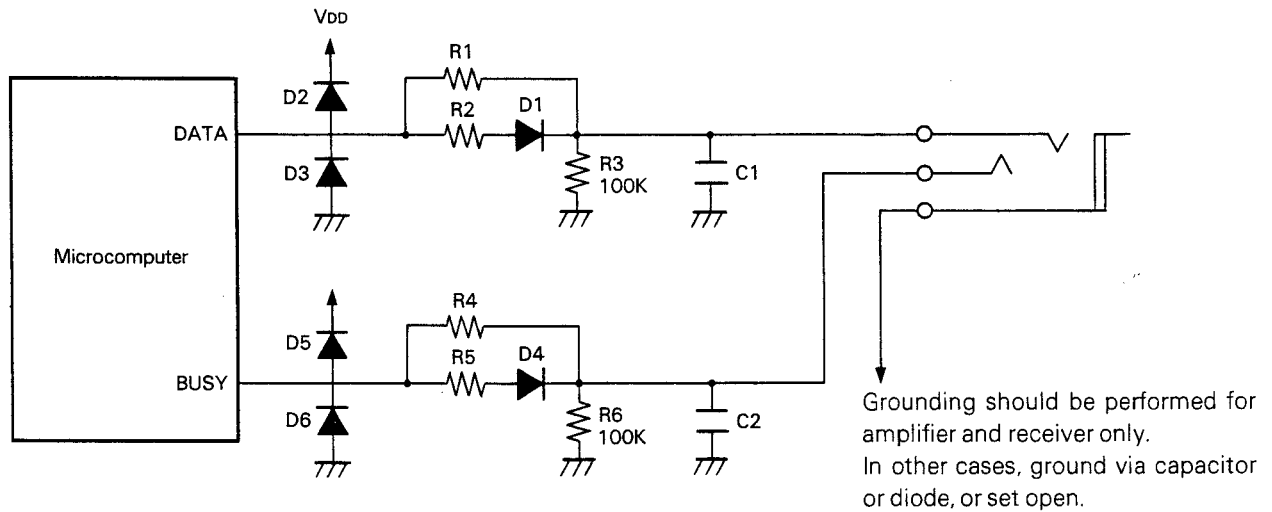
\* Constants for  $R_1$ ,  $R_2$  differ for each microcomputer used.

- In case of  $\mu$ PD7537,  
 $\mu$ PD7538 .....  $R_1$ : 4.7 k $\Omega$ ,  $R_2$ : 330  $\Omega$
- In other cases .....  $R_1$ : 100 k $\Omega$ ,  $R_2$ : 680  $\Omega$

\* GND should be applied to the amplifier.



## CIRCUIT DESCRIPTION



- 1 R1, R4:
 

R1, R4 are determined by the input leakage signal of the microcomputer used.

  - When leakage current is less than  $10 \mu\text{A}/5 \text{ V}$ :  
 $R1, R4 = 100 \text{ k}\Omega$   
 (In the normal CMOS input port, it is almost  $3 \mu\text{A}/5 \text{ V}$ .)
  - When the leakage current exceeds the above value:  
 $R1, R4 = 4.7 \text{ k}\Omega$   
 (Example:  $\mu\text{PD77538AC}/37\text{AC}$ , etc.)
- 2 R2, R5: For protection when output is shorted.
  - The minimum value with which the current becomes the maximum rated value or less even when the output is short-circuited. But less than  $680 \Omega$ . Normally about  $330 \Omega$ .
- 3 R3, R6: Input pull-down resistance.
  - $100 \text{ k}\Omega$  regardless of the microcomputer. Be sure to insert the line between R1, D2 and the jacks.
- 4 D1, D4: Reverse current prevention (To prevent the impedance from lowering when power is turned OFF.)
- 5 D2, D3, D5, D6: For port protection. Be sure to insert this position (between R1, R4 and the port.)
- 6 C1, C2: For dealing with static electricity.
  - It is attached only when required. Less than  $1000 \text{ pF}$ .
- 7 The GND terminal of the jacks should be grounded for the amplifier and the receiver only. For other components, it should be open, or grounded via capacitor or diodes.
- 8 When the input and output are separated such as using the N-channel open drain port, etc., it should be connected so as to be equivalent to the above circuit.
- 9 Since an impedance between R1, R4 and the microcomputer ports is high in the condition all components are connected, the connection line should be as short as possible.

## CIRCUIT DESCRIPTION

Model (Type) Code (4-bit) Function Code (4-bit)		REMOTE CONTROL														
		AMP I	TUNER	PLAYER	CD	DECK A	DECK B	AMP II	8	9	A	B	C	D	E	F
0	—	—	—	—	—	—	—	7	0	PHONO	DAT	FRONT BAL L	□ (PLAYER)	◁ (DECK A)	AV AMP MREAD 1	REC SEL TAPE 1
	—	POWER ON	POWER ON	POWER ON	POWER ON	AUTO BIAS START	TEST MODE	1	1	TUNER	TV	FRONT BAL R	◁ or ▷/ (PLAYER)	▷ (DECK A)	AV AMP MREAD 2	REC SEL TAPE 2
2	—	SEL TUNER	Deck Timer P/R Cancel	—	PGM	TUNER REC	TUNER REC	POS. TUNER	2	CD (CD/AUX)	VIDEO 2	REAR BAL L	◁◁ (PLAYER)	◁◁ (DECK A)	AV AMP MREAD 3	REC SEL VIDEO 1
	—	SEL PHONO	—	—	TRACK	PHONO REC	PHONO REC	POS. PHONO	3	AUX (VIDEO 2)	(DIG 1) DATA DIG.	REAR BAL R	▷▷ (PLAYER)	▷▷ (DECK A)	AV AMP MREAD 4	REC SEL VIDEO 2
4	—	SEL CD	PAUSE CD	—	CLOSE	CD REC	CD REC	POS. CD	4	TAPE A (TAPE 1)	(DIG 2) CD DIG.	VIDEO A (VDP 1)	MODE (CD)	□ (DECK A)	—	—
	—	SEL TAPE A	SYSTEM ON	START	MEMORY READ	TAPE A REC	TAPE A REC	POS. TAPE A	5	TAPE B (TAPE 2)	REC LEVEL DOWN	VIDEO B (VDP 2)	GE	□ (DECK A)	—	—
6	—	SEL TAPE B	SYSTEM OFF	END	MEMO	TAPE B REC	TAPE B REC	POS. TAPE B	6	VIDEO (VIDEO 1)	CD ◁◁	VDP 3 (BS)	REAR VOL. DOWN	○ REC (DECK A)	—	—
	—	SEL AUX (SEL VIDEO 3)	REMOCON KEY OFF	SIDE A END	CDV PLAY	AUX REC	AUX REC	POS. AUX	7	ROULETTE PLAY	CD ▷▷	AUDIO	REAR VOL. UP	SURROUND ON/OFF	—	—
8	—	ROULETTE ON	PLAY	PLAY	PLAY	PLAY	PLAY	CD REC SW ON	8	CH. DOWN CONTROL	DISC CD	REAR BAL L	CHECK (CD)	◁ (DECK B)	SHARPNESS DOWN	—
	—	ROULETTE OFF	—	STOP	STOP	STOP	STOP	CD REC SW OFF	9	CH. UP (PRESET SCAN)	—	REAR BAL R	□ (CD)	▷ (DECK B)	SHARPNESS UP	—
A	—	SEL VIDEO (VIDEO 1) (VTR)	SEL. ANALOG	MUTE ON	PAUSE	VIDEO REC	VIDEO REC	POS. VIDEO	VIDEO 3	VOL. DOWN	—	REAR VOL. DOWN	CLEAR (CD)	◁◁ (DECK B)	DETAIL DOWN	—
	—	—	SEL. DIGITAL	MUTE OFF	SAMPLE START	Computer CD REC Start	PHONO REC SW ON	PHONO REC SW OFF	MUSIC SE- LECT MODE ON/OFF	VOL. UP	—	REAR VOL. UP	▷ (CD)	▷▷ (DECK B)	DETAIL UP	—
C	—	—	DUB	DUB 2	DUB	END BACK	DUB	PHONO REC SW OFF	MUSIC SELECT	MUTE	REC LEVEL UP	AV AMP MEMORY	REPEAT (CD)	□ (DECK B)	DELAY TIME DOWN	—
	—	SEL CD DIG.	DUB 1	Tray OPEN	TAPE 2 REC	TAPE 2 REC	TAPE 1 ON	LW (J=TV)	POWER	+10 (CD)	TIME DISPLAY (CD)	TAPE MONITOR	EDIT (CD)	□ (DECK B)	DELAY TIME UP	—
E	—	—	SEL DAT DIG.	RANDOM DEC	Computer CD REC Standby	—	Computer CD REC Standby	TAPE 2 OFF	MW (AM)	DIRECT	GE ON/OFF	AUDIO INJECTION	◁◁ (CD)	SURROUND MODE	DELAY ON/OFF	—
	—	SEL DAT	SEL. CDV/DIG.	—	S-CCRS START	DAT REC	DAT REC	POS. DAT	FM	PRESET FUNC. A/B	—	—	—	—	—	—

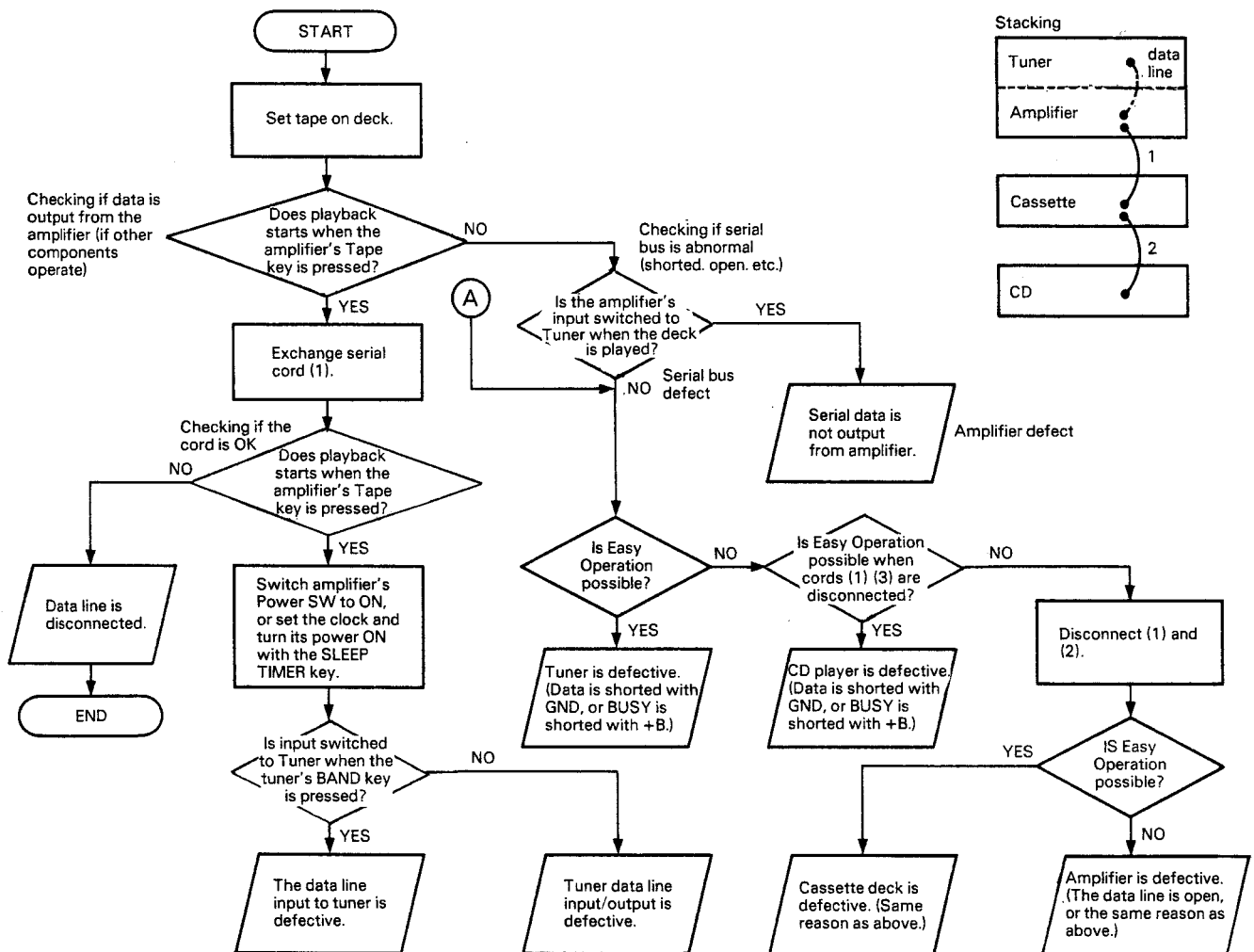
## TROUBLESHOOTING

## Troubleshooting in Serial Communication Problems

## 1. In case the desired components do not operate when the amplifier is operated

(Example) When the POWER switch of the amplifier is switched ON, the amplifier is turned ON

but the tuner is not turned ON (the clock is kept displayed).



**Explanation:** The case in which other components do not operate when the amplifier is operated may be one of the following.

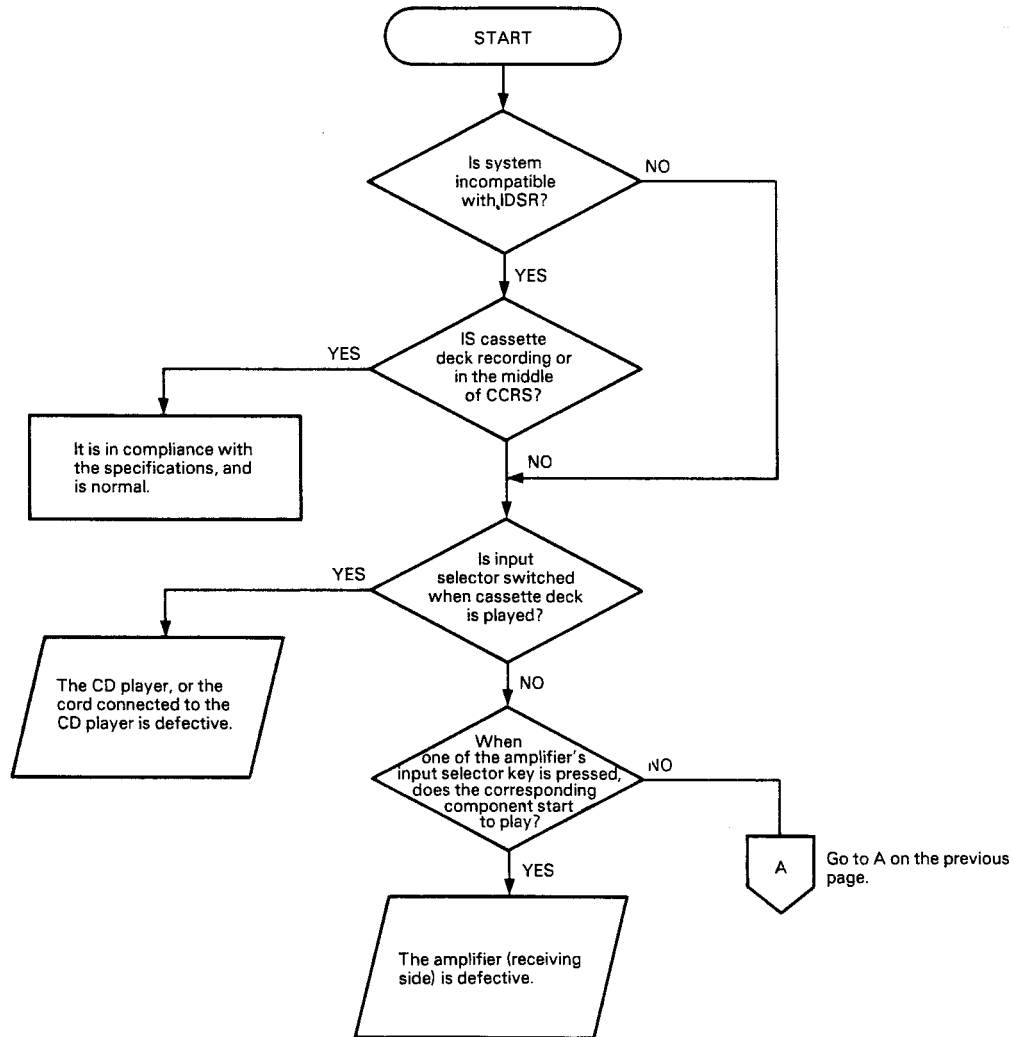
- (1) Only a specific component does not operate while Easy Operation is possible with others.
- (2) None of the components operate when the amplifier is operated. However, when any of them is played, the input selector of the amplifier is switched for that component.
- (3) None of the components cannot be operated by Easy Operation with the amplifier in any way.

With (1), the trouble is clearly caused by the serial cord connected to or attached to that specific component. With (2), there may be a defect in the amplifier's circuitry related to the serial communication output. With (3), the data voltage is not output due to a defect in the amplifier's serial I/O or to a short-circuit of the DATA line with GND in one of the components. Also it is possible that all components are put in the status inhibiting the data output due to a short-circuit of BUSY with +B (5 V).

## TROUBLESHOOTING

2. In case the input selector of the amplifier is not switched when a component other than the amplifier is played.

(Example) Although the CD player is played, the input selector of the amplifier is not switched to CD.



**Explanation:** This case can also be classified as follows.

- (1) Only a specific component does not operate while Easy Operation is possible with others.
- (2) When one of the input selectors on the amplifier is pressed, the corresponding component operates.

However, the input selector of the amplifier is not switched when the component is played.

(3) None of the components cannot be operated by Easy Operation.

With (1), the trouble is due to that specific component.

With (2), the serial input of the amplifier is defective.

With (3), the trouble is due to one of the possible causes described in (3) on the previous page.

## ADJUSTMENT

No.	ITEM	INPUT SETTINGS	OUTPUT SETTINGS	TUNER SETTINGS	ALIGNMENT POINTS	ALIGN FOR	FIG.
FM SECTION SELECTOR: FM							
1	DETECTOR	(A) 98.0MHz 1kHz, $\pm 75$ kHz dev 60dB $\mu$ (ANT input)	Connect a DC voltmeter between TP3 and TP4.	AUTO or MONO 98.0MHz	L4 (X05-)	0V	(a)
2	VCO	(A) 98.0MHz 0 dev 100dB $\mu$ (ANT input)	Connect a frequency counter between TP5 and GND.	AUTO 98.0MHz	VR3 (X05-)	19.00kHz	(b)
3	DISTORTION (STEREO)	(C) 98.0MHz 1kHz, $\pm 68.25$ kHz dev Selector: L or R Pilot: $\pm 6.75$ kHz dev 60dB $\mu$ (ANT input)	(B)	98.0MHz	IFT (Front end)	Minimum distortion.	
4	SEPARATION (E type only)	(C) 98.0MHz Stereo signal 60dB $\mu$ (ANT input)	(B)	AUTO 98.0MHz	VR4 (X05-)	Minimum crosstalk.	
5	TUNING LEVEL	(A) 98.0MHz 0 dev 14dB $\mu$ (ANT input) 750	(B)	AUTO or MONO 98.0MHz	VR1 (X05-)	Adjust VR1 and stop at the point where FL1(TUNED) goes on.	
AM-MW SECTION Keep the AM loop antenna installed. SELECTOR: AM or MW							
(1)	BAND EDGE (1)	—	Connect a DC voltmeter between TP2(VT) and TP1(GND).	530kHz (531kHz)	L9 (X05-)	1.5V	(c)
(2)	BAND EDGE (2)	—	Connect a DC voltmeter between TP2(VT) and TP1(GND).	* 1610kHz (1602kHz)	TC2 (X05-)	8.0V	(c)
Repeat alignments (1) and (2) several times.							
(3)	RF ALIGNMENT (1)	(D) 630kHz 400Hz, 30% mod	(B)	630kHz	L8 (X05-)	Maximum amplitude and symmetry of the oscilloscope display.	
(4)	RF ALIGNMENT (2)	(D) 1440kHz 400Hz, 30% mod	(B)	1440kHz	TC1 (X05-)	Maximum amplitude and symmetry of the oscilloscope display.	
Repeat alignments (3) and (4) several times.							
(5)	IF TRANSFORMER	(D) 999(1000)kHz 400Hz, 30% mod 20dB $\mu$ (ANT input)	(B)	—	L10 (X05-)	Maximum amplitude and symmetry of the oscilloscope display.	
(6)	TUNING LEVEL	(D) 999(1000)kHz 400Hz, 30% mod 26dB $\mu$ (ANT input)	(B)	—	VR2 (X05-)	Adjust VR2 and stop at the point where FL1(TUNED) goes on.	
AM-LW SECTION (E type only) Keep the AM loop antenna installed. SELECTOR: LW							
(7)	BAND EDGE (1)	—	Connect a DC voltmeter between TP2(VT) and TP1(GND).	153kHz	L72 (X05-)	1.5V	(c)
(8)	BAND EDGE (2)	—	Connect a DC voltmeter between TP2(VT) and TP1(GND).	*281kHz	TC4 (X05-)	8.0V	(c)
Repeat alignments (7) and (8) several times.							
(9)	RF ALIGNMENT (1)	(D) 162kHz 400Hz, 30% mod	(B)	162kHz	L71 (X05-)	Maximum amplitude and symmetry of the oscilloscope display.	
(10)	RF ALIGNMENT (2)	(D) 270kHz 400Hz, 30% mod	(B)	270kHz	TC3 (X05-)	Maximum amplitude and symmetry of the oscilloscope display.	
Repeat alignments (9) and (10) several times.							
AUDIO SECTION							
[1]	IDLE CURRENT	—	(E) Connect a DC voltmeter across CP1(L) CP2(R)	Volume: 0	VR1(L) VR2(R) (X09)	10mV	(d)

## REGLAGE

N°	ITEM	REGLAGE DE L'ENTREE	REGLAGE DE LA SORTIE	REGLAGE DU TUNER	POINT DE L'ALIGNEMENT	ALIGNER POUR	FIG.
SECTION MF		SELECTEUR : FM					
1	DETECTEUR	(A) 98,0MHz 1kHz.±75kHz dév 60dBμ(Entrée ANT)	Relier un voltmètre CC entre les TP3 et TP4.	AUTO ou MONO 98,0MHz	L4 (X05-)	0V	(a)
2	OSCILLATEUR CONTROLE PAR LA TENSION	(A) 98,0MHz 0 dév 100dBμ(Entrée ANT)	Relier un compteur de fréquence entre les TP5 et GND.	AUTO 98,0MHz	VR3 (X05-)	19,00kHz	(b)
3	DISTORSION (STEREO)	(C) 98,0MHz 1kHz.68,25kHz dév Selection:l ou R Signal pilote: ±6,75kHz dév 60dBμ(Entrée ANT)	(B)	98,0MHz	Tête H.F. IFT (X05-)	Distorsion minimale.	
4	SEPARATION (E type seulement)	(C) 98,0MHz Signal stéréo 60dBμ(Entrée ANT)	(B)	AUTO 98,0MHz	VR4 (X05-)	Diaphonie minimale.	
5	NIVEAU D'ACORDER	(A) 98,0MHz 0 dév — 14dBμ(Entrée ANT) 75Ω	(B)	AUTO ou MONO 98,0MHz	VR1 (X05-)	Ajuster VR1 et arrêter le mouvement de VR1 au moment où le FL1(TUNED)s'allume.	
SECTION MA-MW		Laisser l'antenne bouche MA installée. SELECTEUR: AM ou MW					
(1)	BORD DE BANDE (1)	—	Relier un voltmètre entre les TP2(VT)et TP1(GND).	530kHz (531kHz)	L9 (X05-)	1,5V	(c)
(2)	BORD DE BANDE (2)	—	Relier un voltmètre entre les TP2(VT)et TP1(GND).	1610kHz (1610kHz)	TC2 (X05-)	8,0V	(c)
Répéter les points (1) et (2) plusieurs fois.							
(3)	ALIGNEMENT H.T. (1)	(D) 630kHz 400Hz, 30% mod	(B)	630kHz	L8 (X05-)	Amplitude et symétrie maximale de l'affichage de l'oscilloscope.	
(4)	ALIGNEMENT H.T. (2)	(D) 1440kHz 400Hz, 30% mod	(B)	1440kHz	TC2 (X05-)	Amplitude et symétrie maximale de l'affichage de l'oscilloscope.	
Répéter les points (3) et (4) plusieurs fois.							
(5)	TRANSFORMATEUR F.I.	(D) 999(1000)kHz 400Hz, 30% mod 20dBμ(Entrée ANT)	(B)	—	L10 (X05-)	Amplitude et symétrie maximale de l'affichage de l'oscilloscope.	
(6)	NIVEAU D'ACORDER	(D) 999(1000)kHz 400Hz, 30% mod 26dBμ(Entrée ANT)	(B)	—	VR2 (X05-)	Ajuster VR2 et arrêter le mouvement de VR2 au moment où le FL1(TUNED)s'allume.	
SECTION MA-LW(E type seulement)		Laisser l'antenne bouche MA installée. SELECTEUR: LW					
(7)	BORD DE BANDE (1)	—	Relier un voltmètre entre les TP2(VT)et TP1(GND).	153kHz	L72 (X05-)	1,5V	(c)
(8)	BORD DE BANDE (2)	—	Relier un voltmètre entre les TP2(VT)et TP1(GND).	281kHz	TC4 (X05-)	8,0V	(c)
Répéter les points (7) et (8) plusieurs fois.							
(9)	ALIGNEMENT H.T. (1)	(D) 162kHz 400Hz, 30% mod	(B)	162kHz	L71 (X05-)	Amplitude et symétrie maximale de l'affichage de l'oscilloscope.	
(10)	ALIGNEMENT H.T. (2)	(D) 270kHz 400Hz, 30% mod	(B)	270kHz	TC3 (X05-)	Amplitude et symétrie maximale de l'affichage de l'oscilloscope.	
Répéter les points (9) et (10) plusieurs fois.							
SECTION AUDIO							
[1]	COURANA DE POLARISATION	—	(E) Connecter un voltmètre CC sur CP1(L) CP2(R)	Volume: 0	VR1(G) VR2(D) (X09-)	10mV	(d)



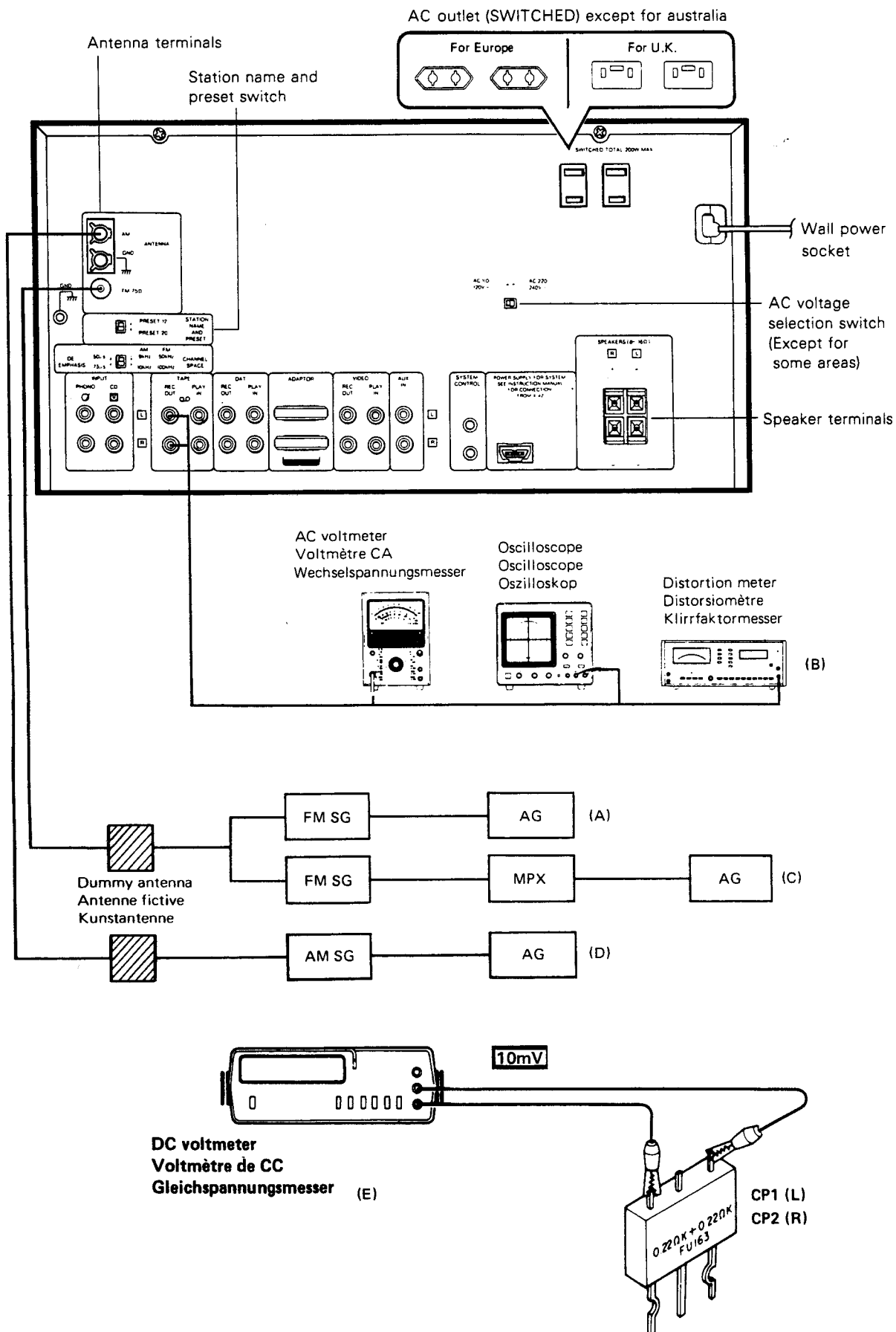
# ABGLEICH

# R-42/L/XL

NR.	GEGENSTAND	EINGANGS-EINSTELLUNG	AUSGANGS-EINSTELLUNG	TUNER-EINSTELLUNG	ABGLEICH-PUNKTE	ABGLEICHEN FÜR	ABB.
UKW-EMPFANGSABTEILUNG WÄHLER: FM							
1	DETEKTOR	(A) 98,0MHz 1kHz.175kHz Hub 60dBμ(Ant-Eingang)	Einen Gleichspannungs- messer zwischen TP3 und TP4 anschließen.	AUTO oder MONO 98,0MHz	L4 (X05-)	0V	(a)
2	SPANNUNGS- GEREGELTER OSZILLATOR	(A) 98,0MHz 0 Hub 100dBμ(Ant-Eingang)	Einen Frequenzzähler zwischen TP5 und GND anschließen.	AUTO 98,0MHz	VR3 (X05-)	19,00kHz	(b)
3	KLIRRFAKTOR (STEREO)	(C) 98,0MHz 1kHz.168,25kHz Hub Wähler: L oder R Pilotten: 16,75kHz Hub 60dBμ(Ant-Eingang)	(B)	98,0MHz	Frontend IFT (X05-)	Minimal Klirrfaktor.	
4	STEREO KANAL TRENNUNG (Nur E Typ)	(C) 98,0MHz Stereo Signal 60dBμ(Ant-Eingang)	(B)	AUTO 98,0MHz	VR4 (X05-)	Minimal Klirrfaktor.	
5	ABSTIMM PEGEL	(A) 98,0MHz 0 Hub 14dBμ(Ant-Eingang) 75Ω	(B)	AUTO oder MONO 98,0MHz	VR1 (X05-)	Den Pegel wiederstand aufdrehen, und dem VR1 Halt geben wobei den FL1(TUNED) anzeiger leuchtet wird.	
MW-EMPFANGSABTEILUNG Die MW-Rahmenantenne angebracht lassen. WÄHLER: AM oder MW							
(1)	BANDKANTE (1)	—	Einen Gleichspannungs- messer zwischen TP2(VT) und TP1(GND). anschließen.	530kHz (531kHz)	L9 (X05-)	1,5V	(c)
(2)	BANDKANTE (2)	—	Einen Gleichspannungs- messer zwischen TP2(VT) und TP1(GND). anschließen.	1610kHz (1602kHz)	TC2 (X05-)	8,0V	(c)
Abstimmungen (1) und (2) mehrere Male wiederholen.							
(3)	HF-ABGLEICH (1)	(D) 630kHz 400Hz, 30% mod	(B)	630kHz	L8 (X05-)	Maximal Amplitude und Symmetrie des Oszilloskopbildes.	
(4)	HF-ABGLEICH (2)	(D) 1440kHz 400Hz, 30% mod	(B)	1440kHz	TC1 (X05-)	Maximal Amplitude und Symmetrie des Oszilloskopbildes.	
Abstimmungen (3) und (4) mehrere Male wiederholen.							
(5)	ZF-ÜBERTRAGER	(D) 999(1000)kHz 400Hz, 30% mod 20dBμ(Ant-Eingang)	(B)	—	L10 (X05-)	Maximal Amplitude und Symmetrie des Oszilloskopbildes.	
(6)	ABSTIMM PEGEL	(D) 999(1000)kHz 400Hz, 30% mod 26dBμ(Ant-Eingang)	(B)	—	VR2 (X05-)	Den Pegel wiederstand aufdrehen, und dem VR2 Halt geben wobei den FL1(TUNED) anzeiger leuchtet wird.	
LW-EMPFANGSABTEILUNG (Nur E typ) Die MW-Rahmenantenne angebracht lassen. WÄHLER: LW							
(7)	BANDKANTE (1)	—	Einen Gleichspannungs- messer zwischen TP2(VT) und TP1(GND). anschließen.	153kHz	L72 (X05-)	1,5V	(c)
(8)	BANDKANTE (2)	—	Einen Gleichspannungs- messer zwischen TP2(VT) und TP1(GND). anschließen.	281kHz	TC4 (X05-)	8,0V	(c)
Abstimmungen (7) und (8) mehrere Male wiederholen.							
(9)	HF-ABGLEICH (1)	(D) 162kHz 400Hz, 30% mod	(B)	162kHz	L71 (X05-)	Maximal Amplitude und Symmetrie des Oszilloskopbildes.	
(10)	HF-ABGLEICH (2)	(D) 270kHz 400Hz, 30% mod	(B)	270kHz	TC3 (X05-)	Maximal Amplitude und Symmetrie des Oszilloskopbildes.	
Abstimmungen (9) und (10) mehrere Male wiederholen.							
AUDIO-ABTEILUNG							
[1]	LEERLAUFSTROM	—	(E) Einen Gleichspannungs- messer über CP1(L) CP2(R) anschließen.	Volume: 0	VR1(L) VR2(R) (X09-)	10mV	(d)

## ADJUSTMENT/REGLAGE/ABGLEICH

### System connections/Raccordements du système/System-Anschlüsse



## TUNER UNIT

		X05-3572-70 *X05-3572-71		X05-3570-81 *X05-3570-82	
		Address			
Ref. No.		R-42L/LX		R-42U	
IC	Q	Component side	Foil side	Componet side	Foil side
	1	6C	6AL	6AQ	6BZ
	2	5C	5AL	5AQ	5BZ
	3	5C	5AL	5AQ	5BZ
	4	4C	4AL	4AQ	4BZ
	5	3B	3AM	3AP	3CA
	6	3B	3AM	3AP	3CA
	7	4C	4AL	4AQ	4BZ
	8	4C	4AL	4AQ	4BZ
	71	6B	6AM	6AP	6CA
	72	6B	6AM	6AP	6CA
	73	5D	5AK	5AR	5BY
	74	5D	5AK	5AR	5BY
	75	4C	4AK	4AQ	4BY
	76	4C	4AK	4AQ	4BY
	77	4B	4AM	4AP	4CA
	78	4B	4AM	4AP	4CA
	79	4B	4AM	4AP	4CA
	80	4B	4AM	4AP	4CA
1		5B	5AL	5AP	5BZ
2		4C	4AL	4AQ	4BZ
3		3C	3AL	3AQ	3BZ

## AUDIO UNIT

		X09-2752-71 *X09-2792-71		X09-2750-82 *X09-2790-82	
		Address			
Ref. No.		R-42L/LX		R-42U	
IC	Q	Component side	Foil side	Componet side	Foil side
	1	3F	3AH	3AT	3BV
	2	3E	3AJ	3AS	3BX
	3	3G	3AH	3AU	3BV
	4	3E	3AJ	3AS	3BX
	5	3G	3AH	3AU	3BV
	6	3E	3AJ	3AT	3BX
	7	3G	3AG	3AU	3BU
	8	3F	3AI	3AT	3BW
	9	3H	3AG	3AV	3BU
	10	3E	3AI	3AS	3BW
	11	3G	3AH	3AU	3BV
	12	3F	3AI	3AT	3BW
	13	4H	4AG	4AV	4BU
	14	4H	4AG	4AV	4BU
	21	4I	4AE	4AW	4BS
	22	4J	4AE	4AX	4BS
	23	4I	4AF	4AW	4BT
	24	4J	4AE	4AX	4BS
	25	4J	4AE	4AX	4BS
	26	5J	5AE	5AX	5BS
	27	4J	4AE	4AX	4BS
	28	4I	4AF	4AW	4BT
	29	6I	5AF	6AW	5BT
	31	5I	5AF	5AW	5BT
	32	6I	6AF	6AW	6BT
	33	6H	6AF	6AW	6BT
	34	6H	6AG	6AV	6BU
	35	4J	4AE	4AX	6BS
	36	5I	5AE	5AW	5BS
	37	4J	4AE	4AX	BS
1		5D	5AJ	5AR	5BX
2		5E	5AJ	5AS	5BX
3		5E	5AI	5AS	5BW
4		5G	5AH	5AU	5BV

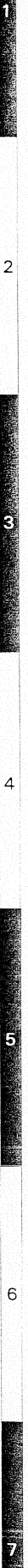
DISPLAY UNIT

		X14-2372-71 *X14-2482-71		X14-2370-81 *14-2480-81	
		Address			
Ref. No.		R-42L/LX		R-42	
IC	Q	Component side	Foil side	Componet side	Foil side
	1	6M	6AB	6BA	6BP
	2	6M	6AB	6BA	6BP
	3	5M	5AB	5BA	5BP
	4	4N	5AA	4BB	4BO
	5	4P	5Y	4BD	5BM
	6	4R	4W	4BF	4BK
	7	3R	3W	3BF	3BK
	8	3R	3W	3BF	3BK
	9	3R	3W	3BF	3BK
	10	3P	3Y	3BD	3BM
	11	3P	3Y	3BD	3BM
	13	6P	6X	6BD	6BL
	14	6P	6Y	6BD	6BM
	15	6P	6Y	6BD	6BM
	16	6P	6Y	6BD	6BM
	17	6O	6Y	6BC	6BM
1		5Q	5X	5BE	5BL
2		4N	4Z	4BB	4BN
3		2C	2AL	2AQ	2BZ
4		2P	2X	2BD	2BL
5		4N	4AA	4BB	4BO

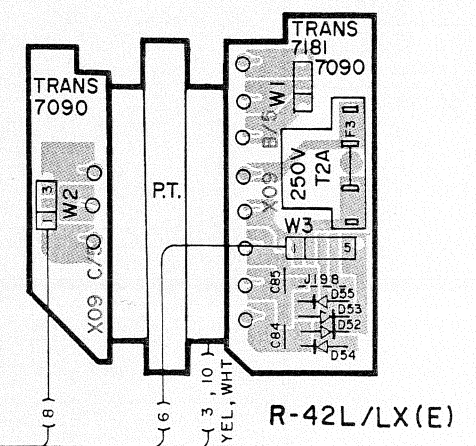
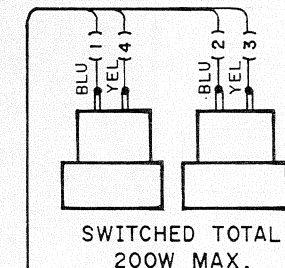
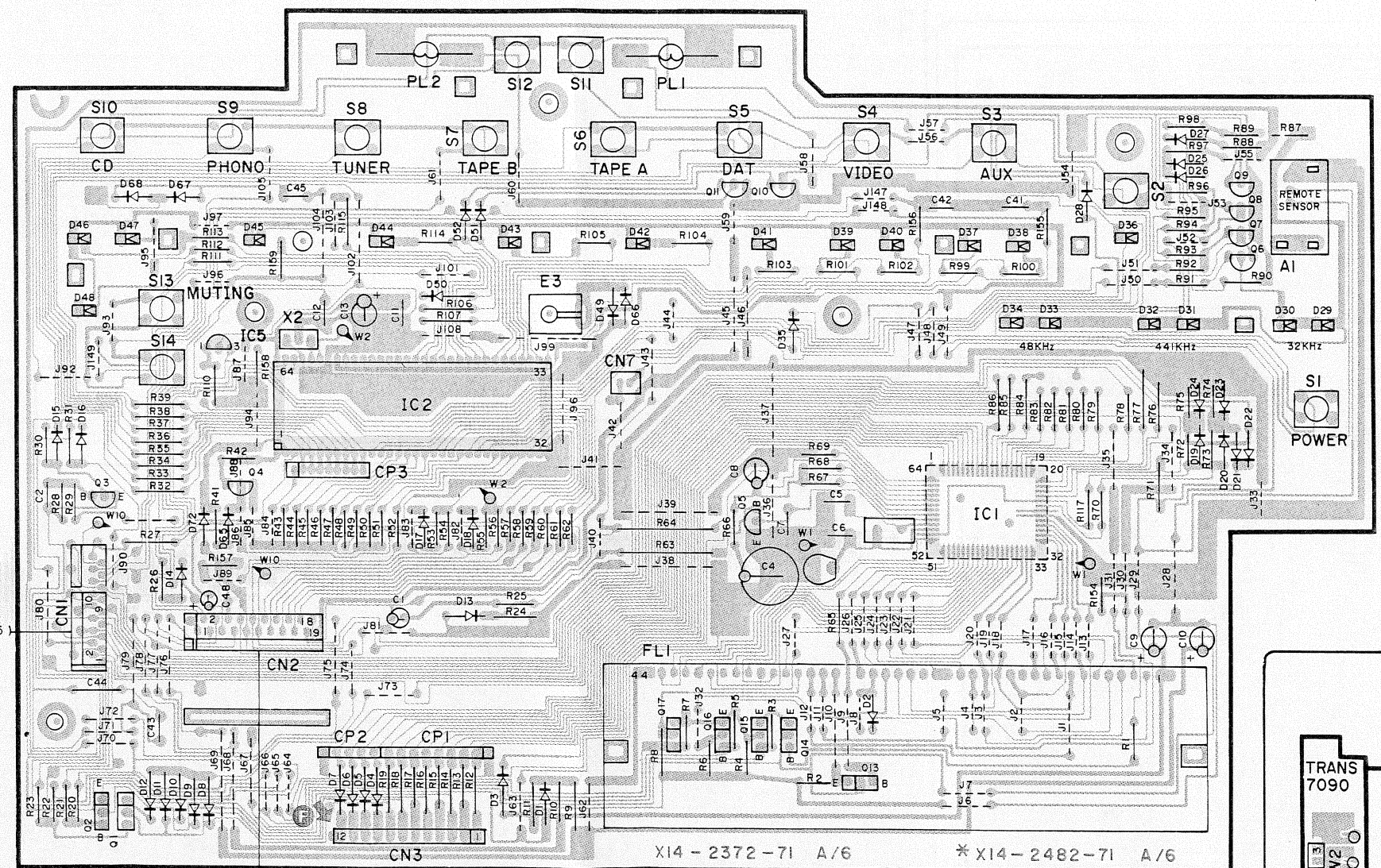
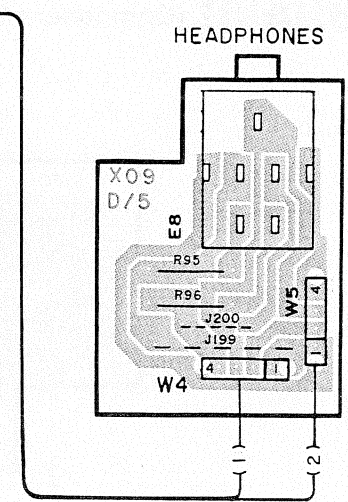
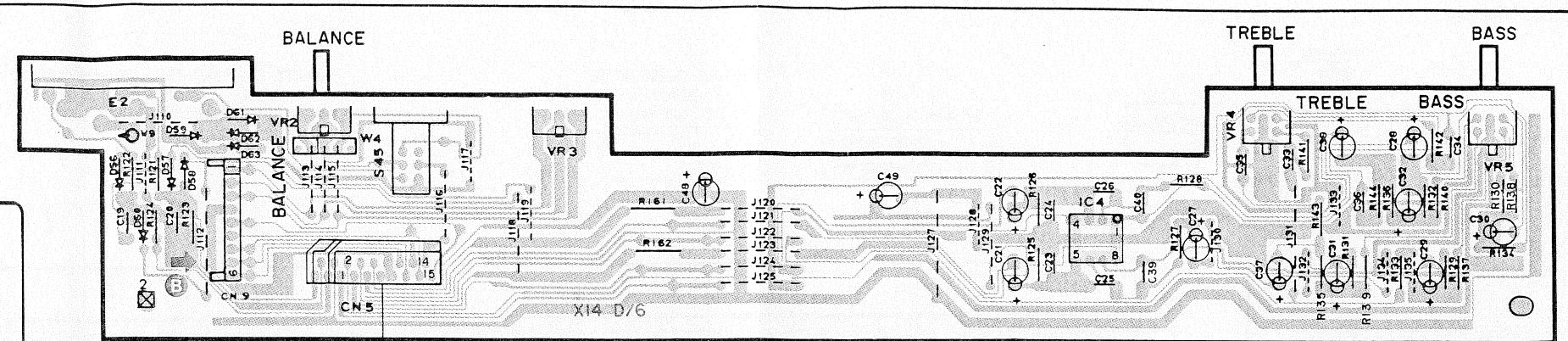
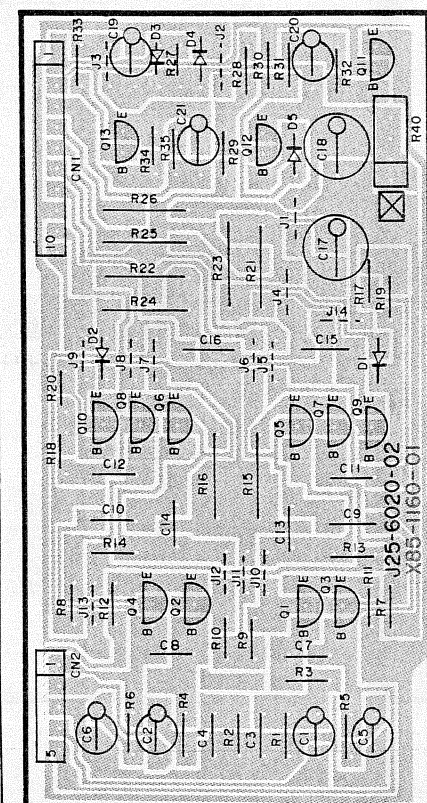
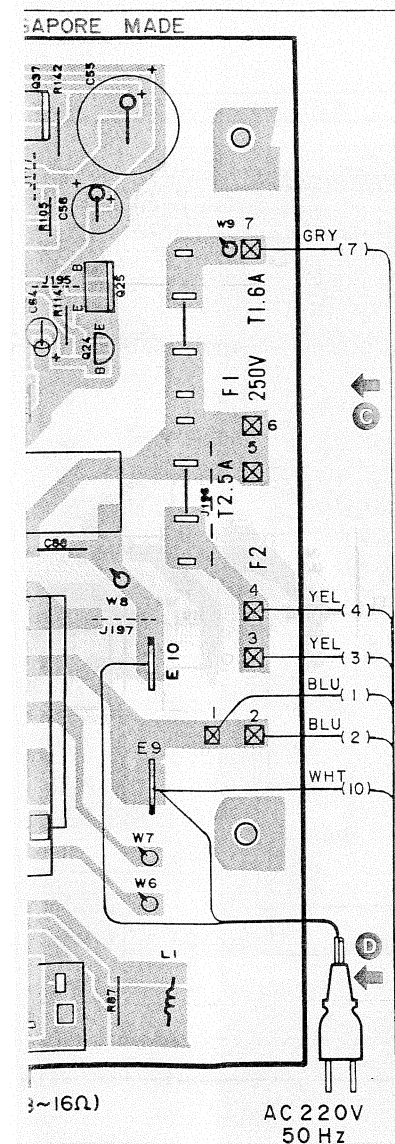
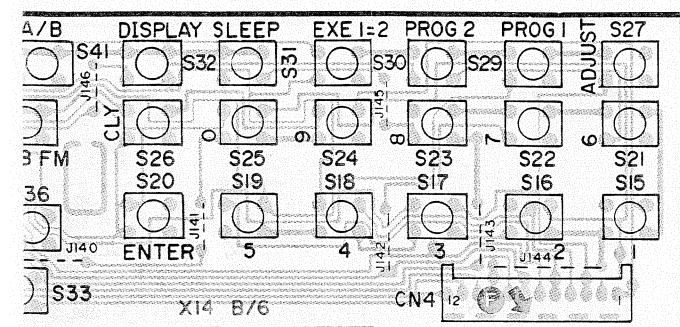
POWER AMPLIFIER UNIT (X85-116)

		Address			
Ref. No.		R-42L/LX		R-42	
IC	Q	Component side	Foil side	Componet side	Foil side
	1	6L	6AC	6AZ	6BQ
	2	6L	6AC	6AZ	6BQ
	3	6L	6AC	6AZ	6BQ
	4	6L	6AC	6AZ	6BQ
	5	6L	5AC	6AZ	5BQ
	6	6L	5AC	6AZ	5BQ
	7	6L	5AC	6AZ	5BQ
	8	6L	5AC	6AZ	5BQ
	9	6L	5AB	6AZ	5BP
	10	6K	5AC	6AY	5BQ
	11	4L	4AB	4AZ	4BP
	12	5L	5AC	5AZ	5BQ
	13	5K	5AC	5AY	5BQ





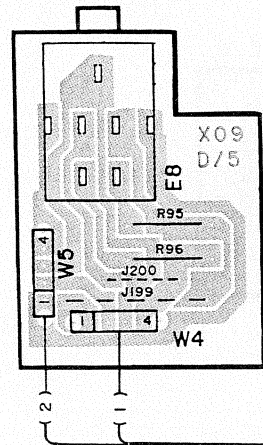






# PC BOARD (Foil Side View)

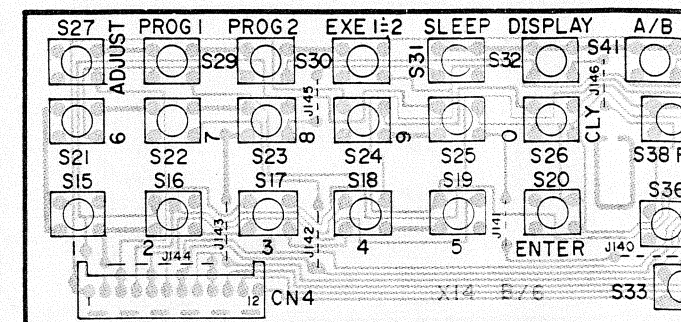
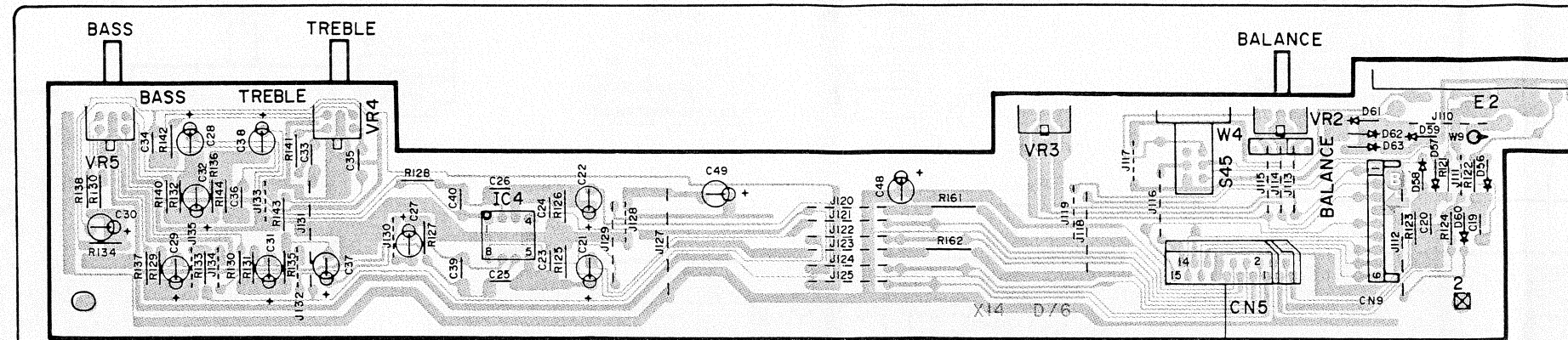
HEADPHONES



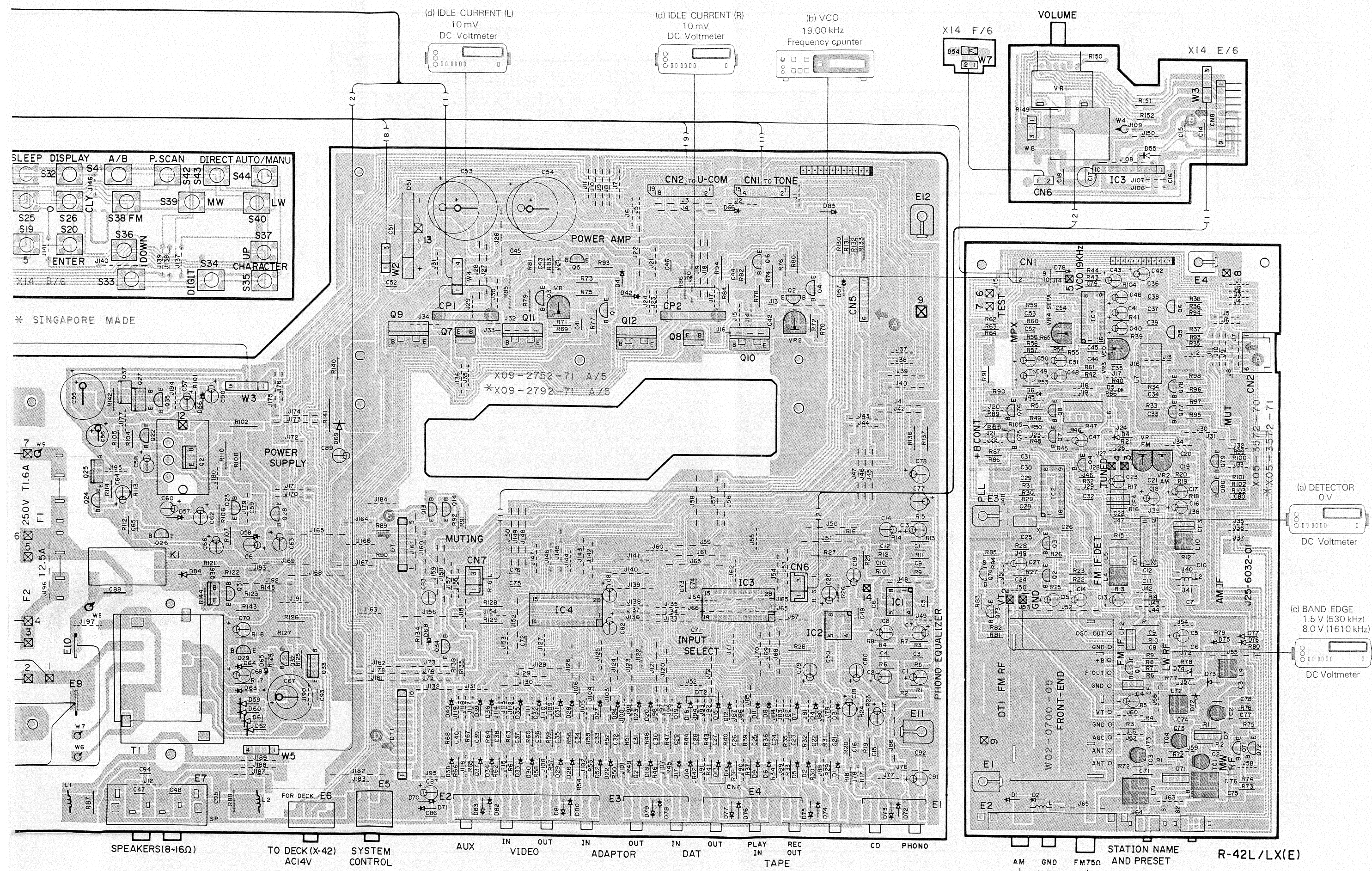
BASS

TREBLE

BALANCE





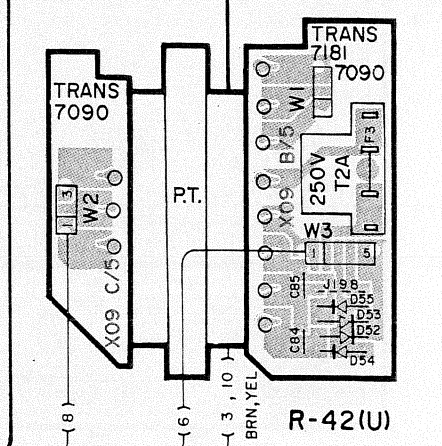
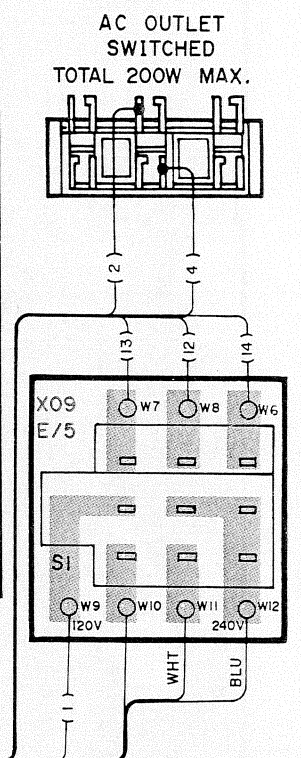
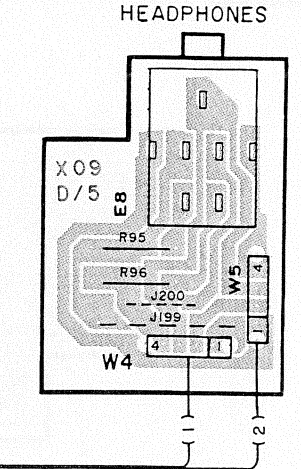
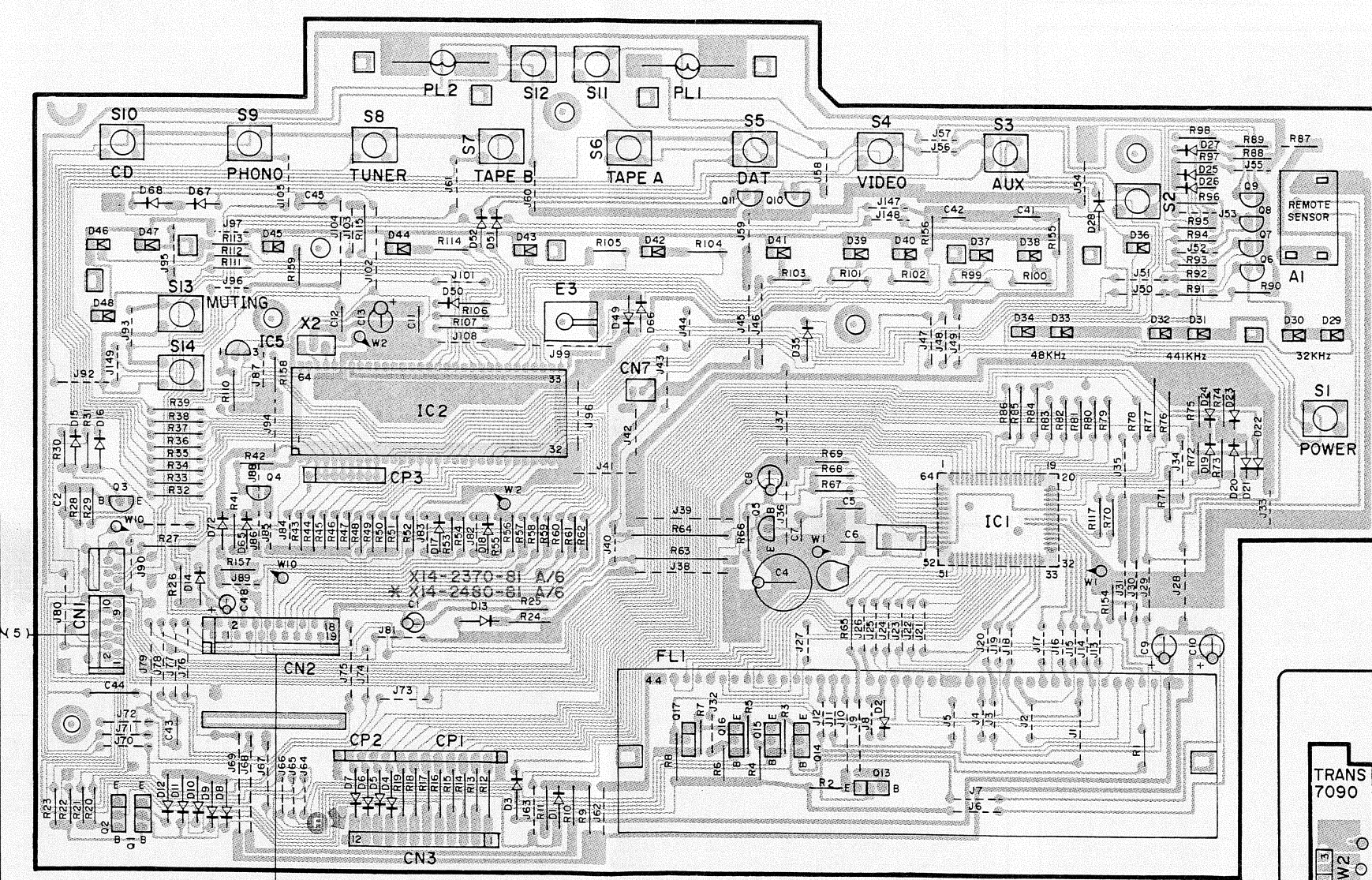
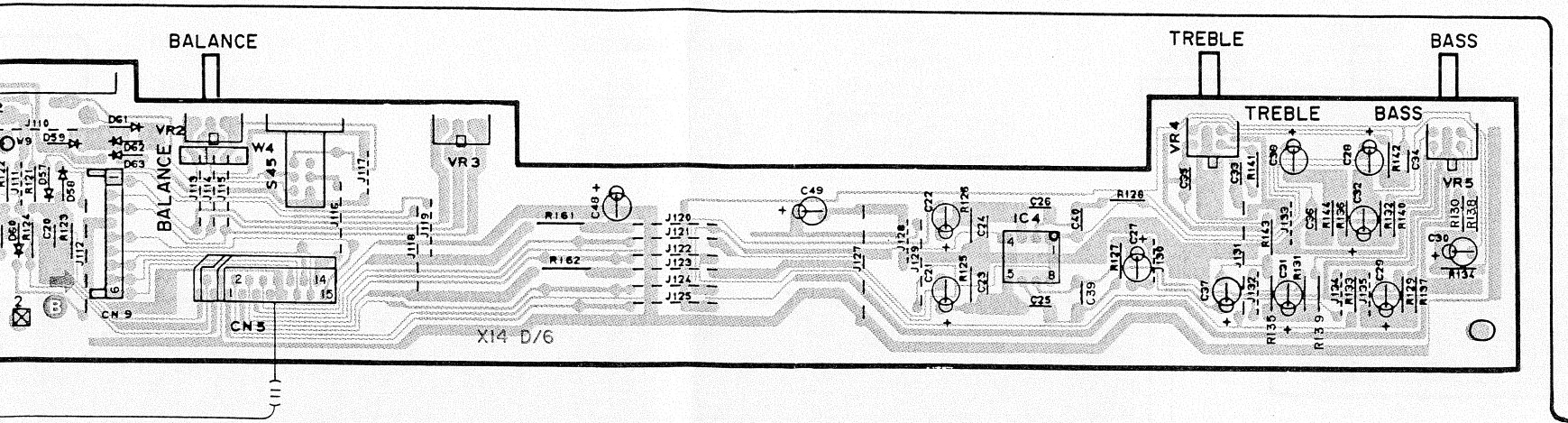
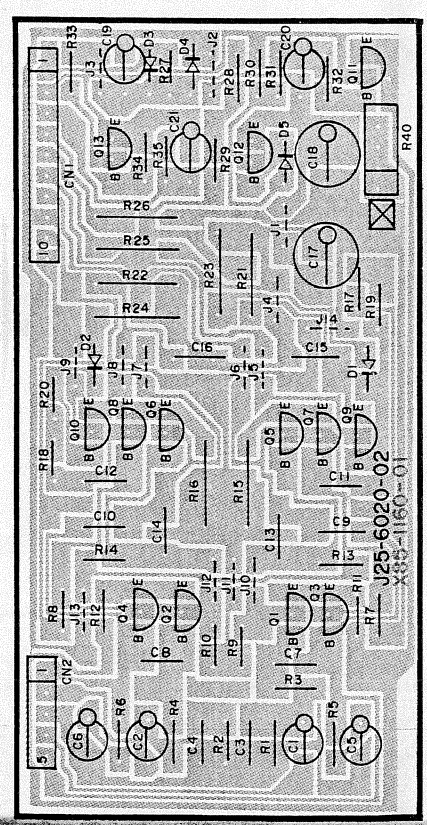
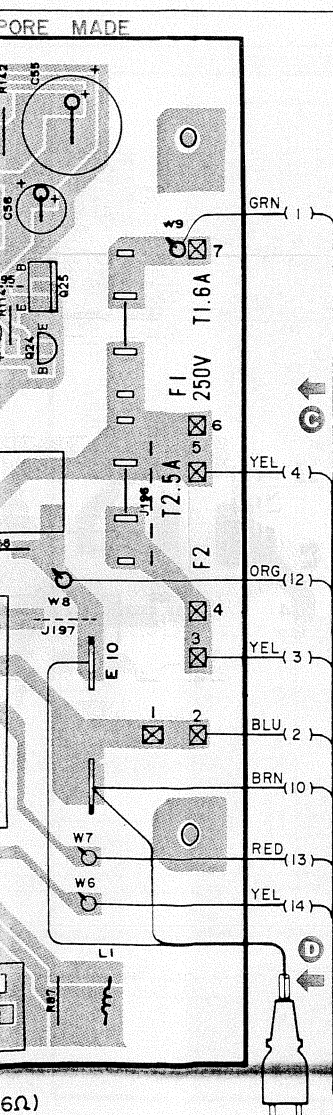
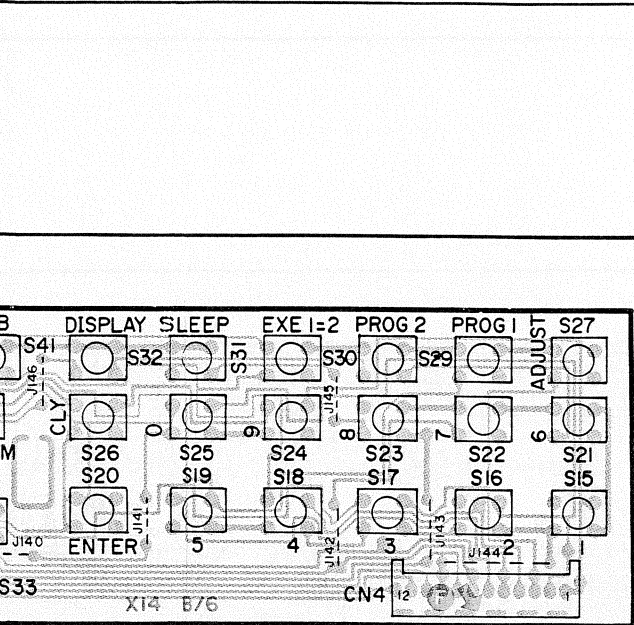


Refer to the schematic diagram for the values of resistors and capacitors.



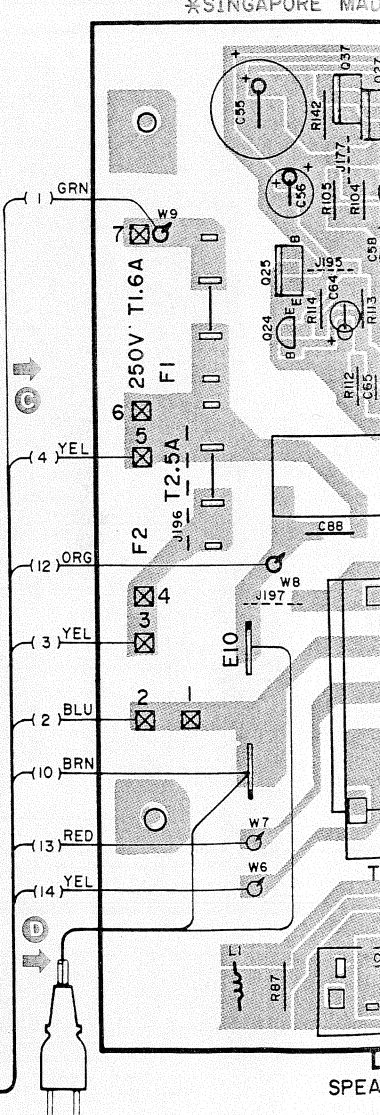
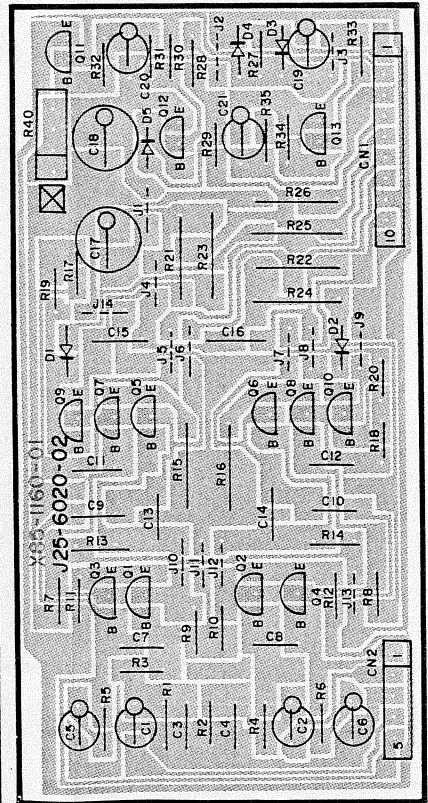
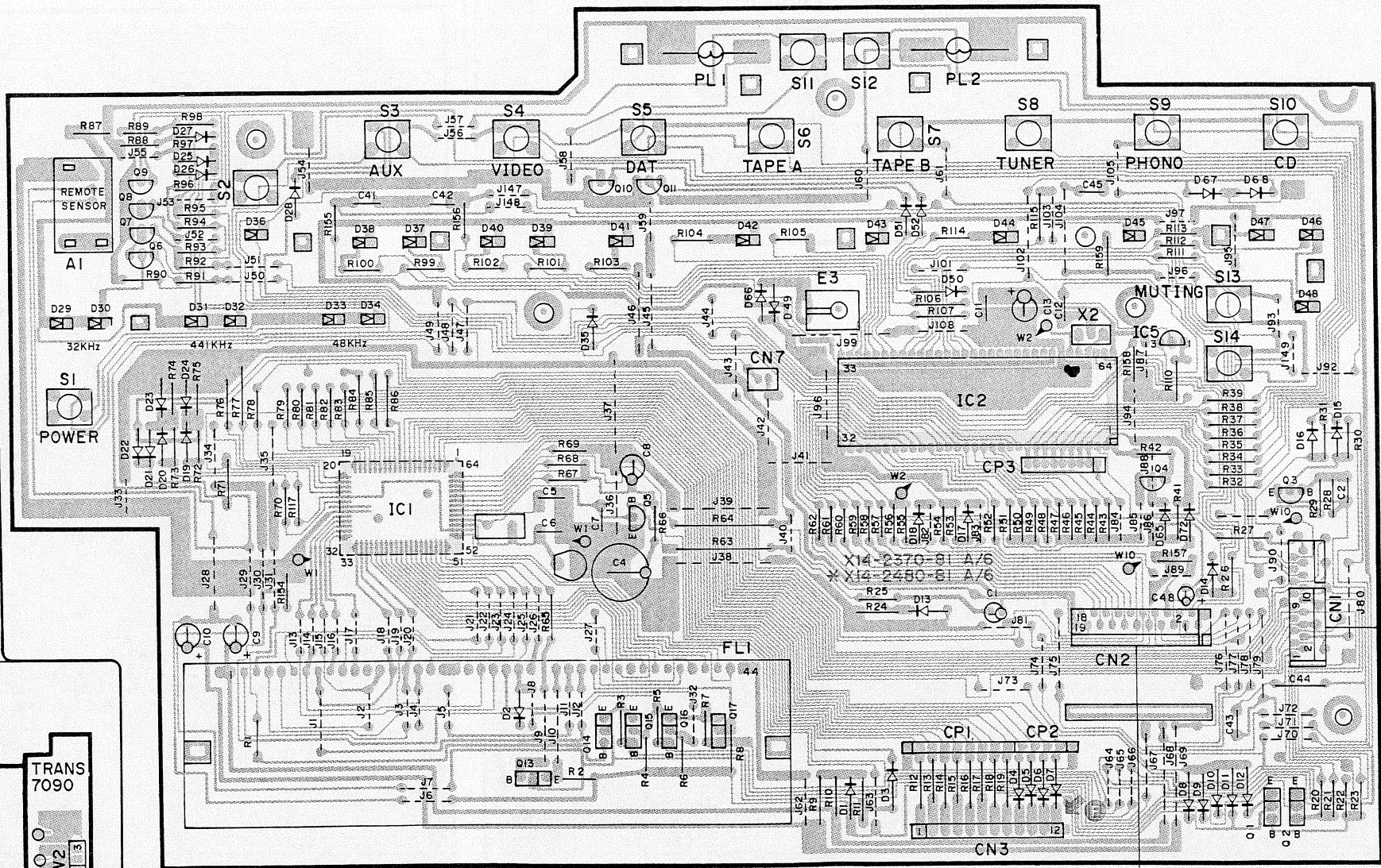
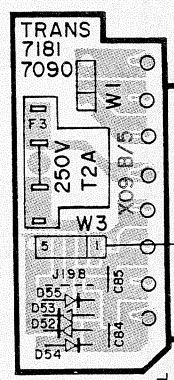
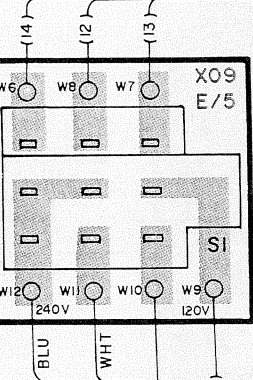
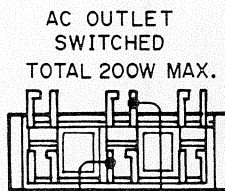
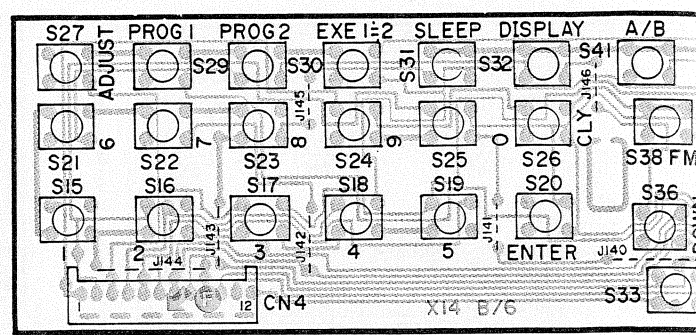
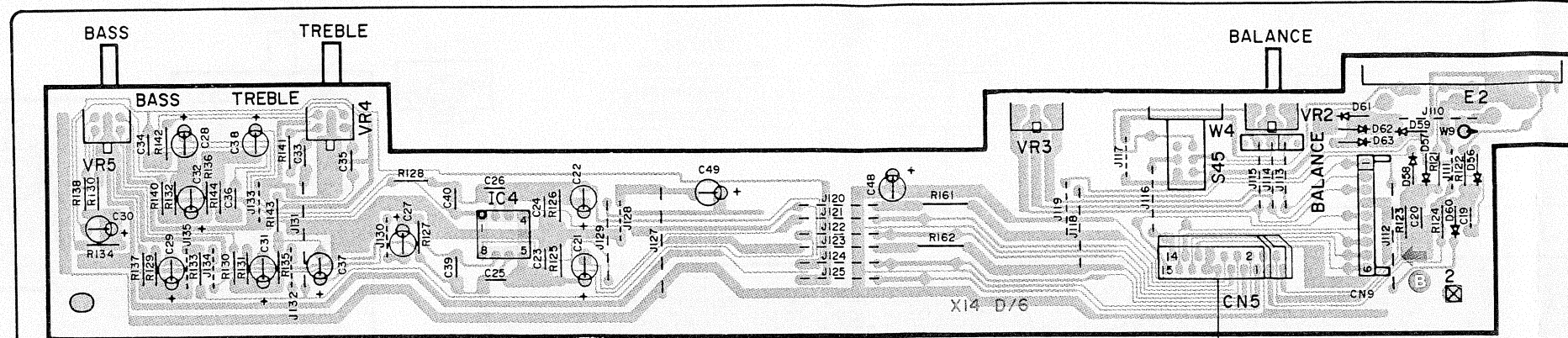
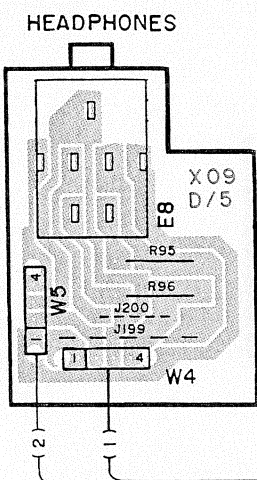




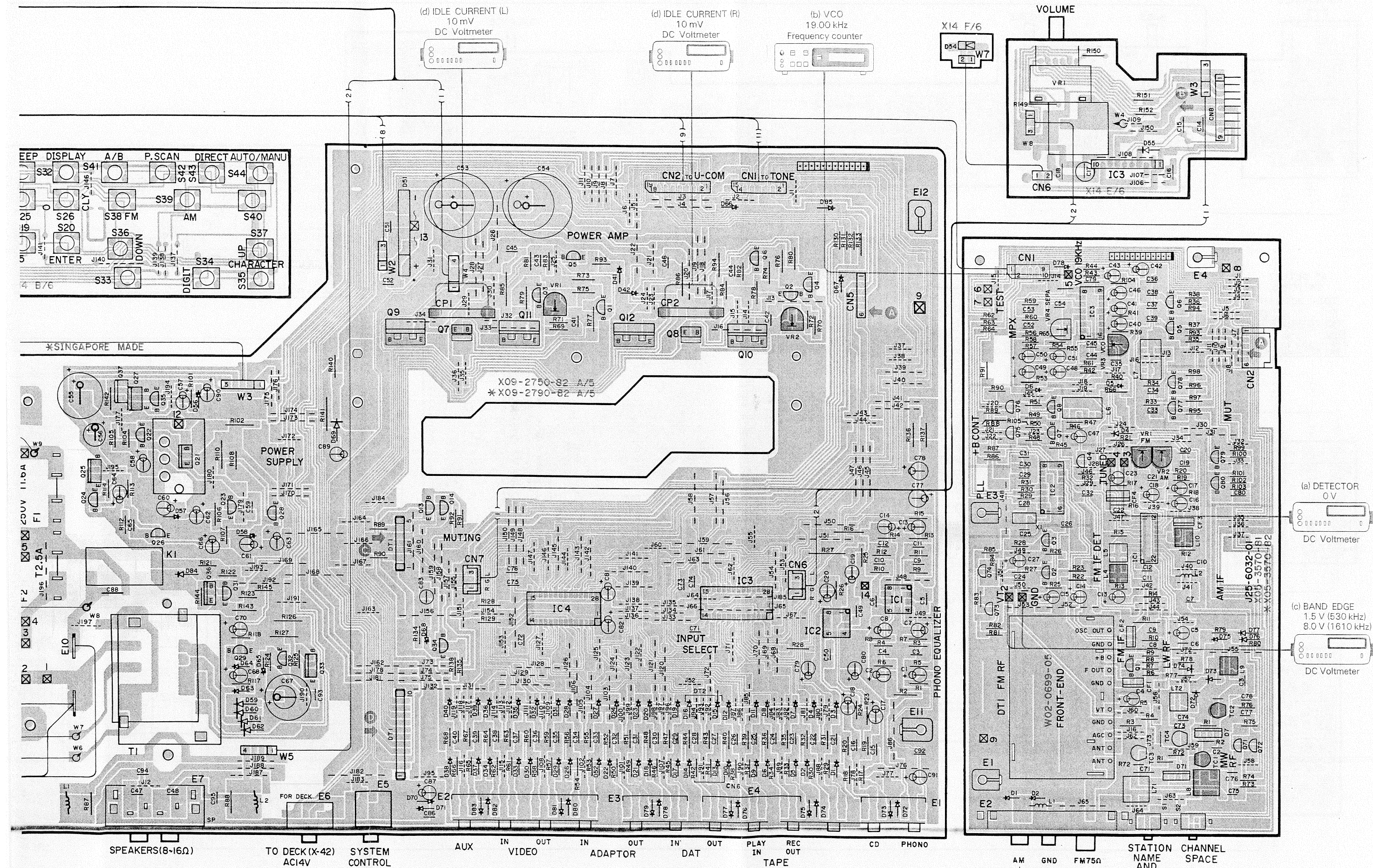




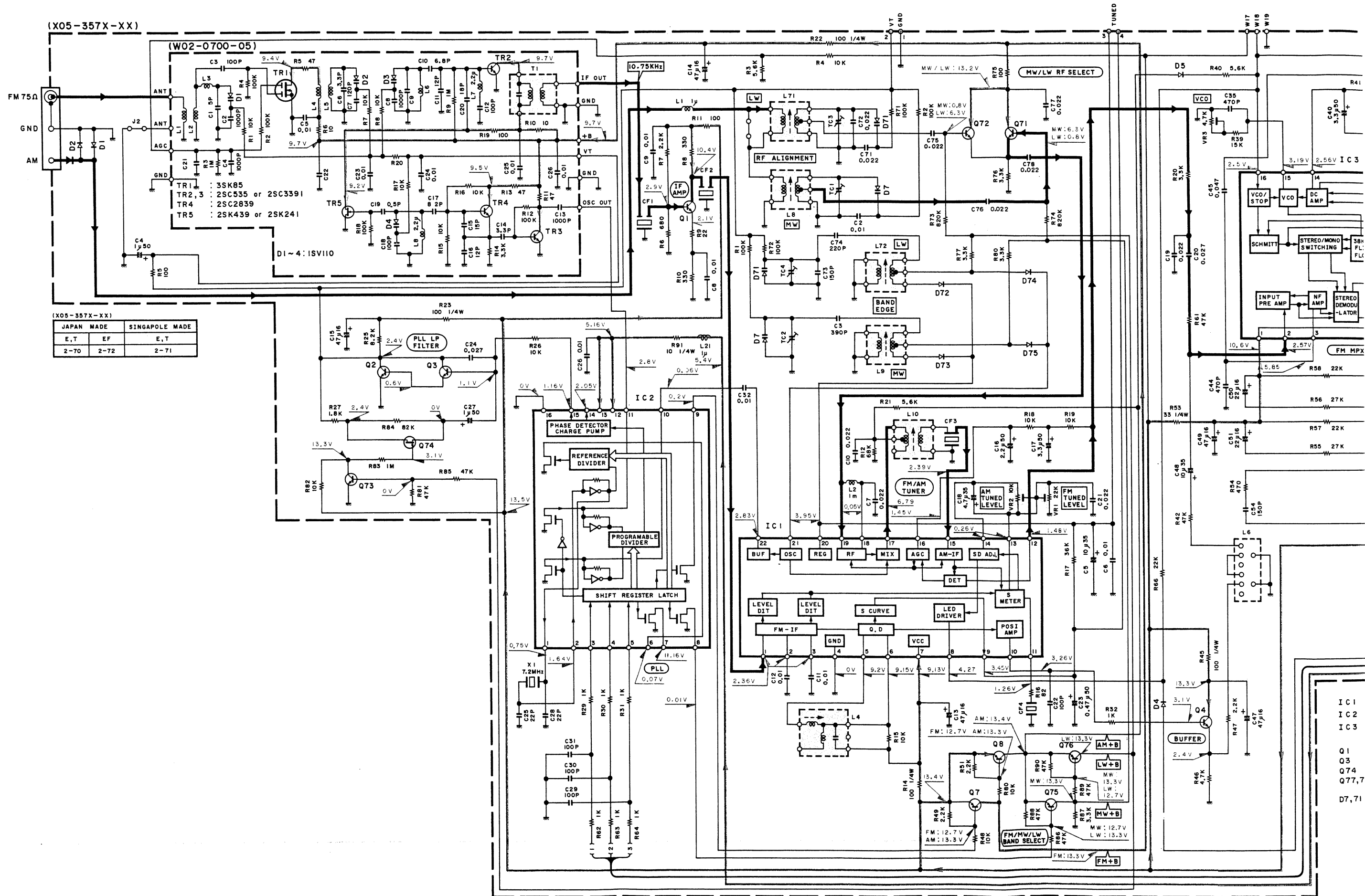
# PC BOARD (Foil Side View)

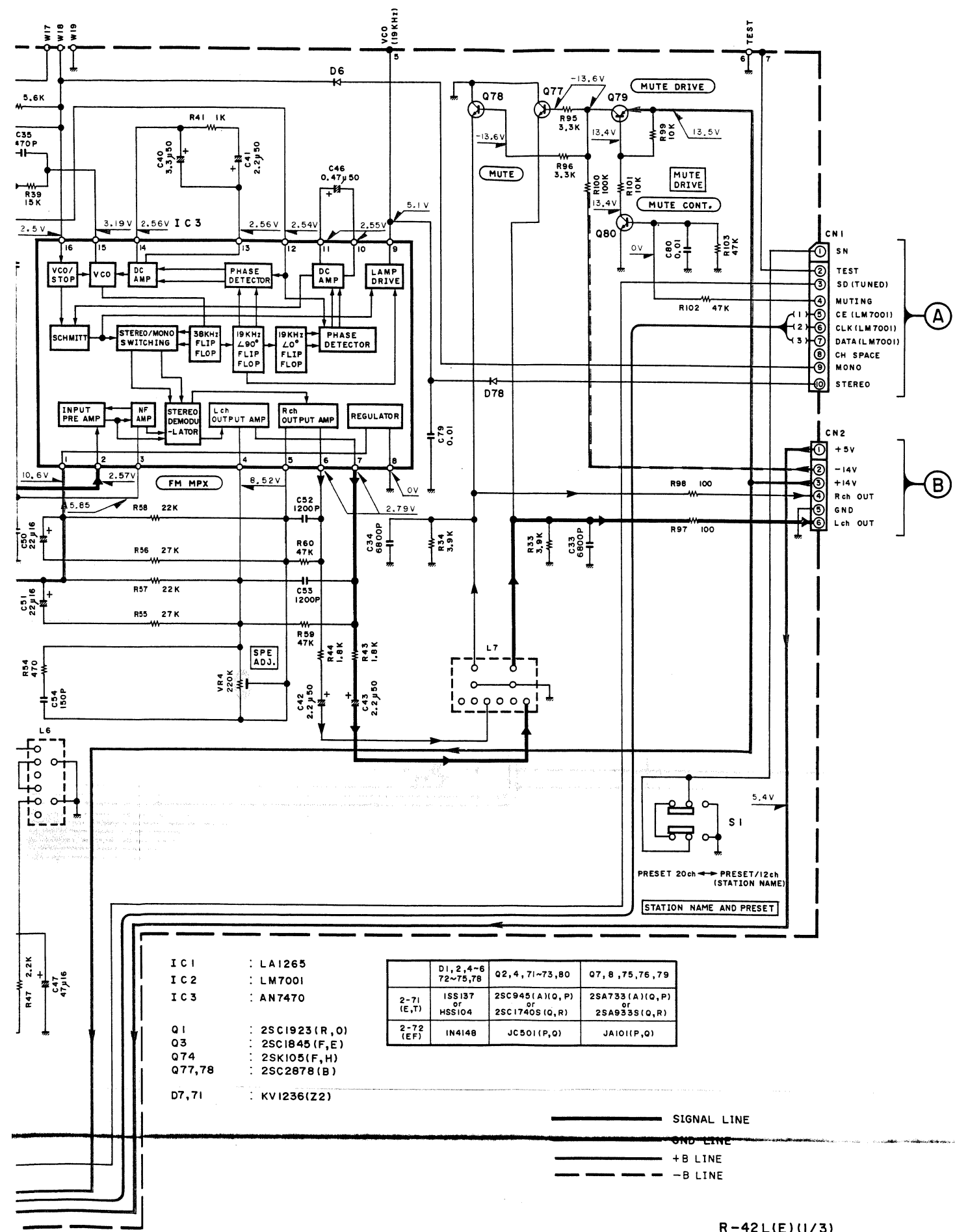










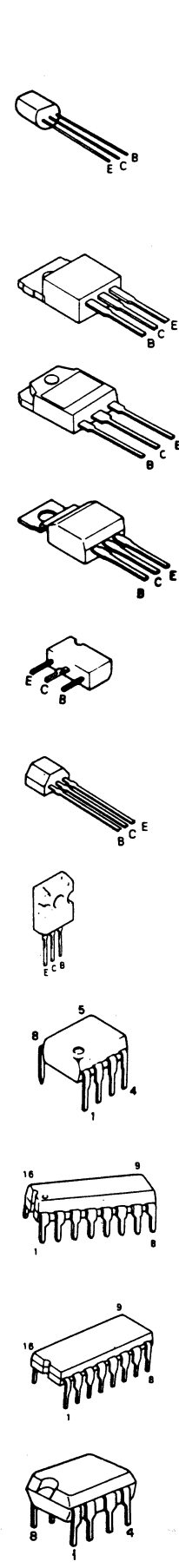


IC 1	: LA1265
IC 2	: LM7001
IC 3	: AN7470
Q 1	: 2SC1923 (R, O)
Q 3	: 2SC1845 (F, E)
Q 74	: 2SK105 (F, H)
Q 77, 78	: 2SC2878 (B)
D 7, 71	: KV1236 (Z 2)

	D1, 2, 4-6 72-75, 78	Q2, 4, 71-73, 80	Q7, 8, 75, 76, 79
2-71 (E, T)	ISS137 or HSS104	2SC945 (A) (Q, P) or 2SC1740S (Q, R)	2SA733 (A) (Q, P) or 2SA933S (Q, R)
2-72 (EF)	IN4148	JC501 (P, Q)	JA101 (P, Q)

— SIGNAL LINE  
- - - GND LINE  
... +B LINE  
... -B LINE

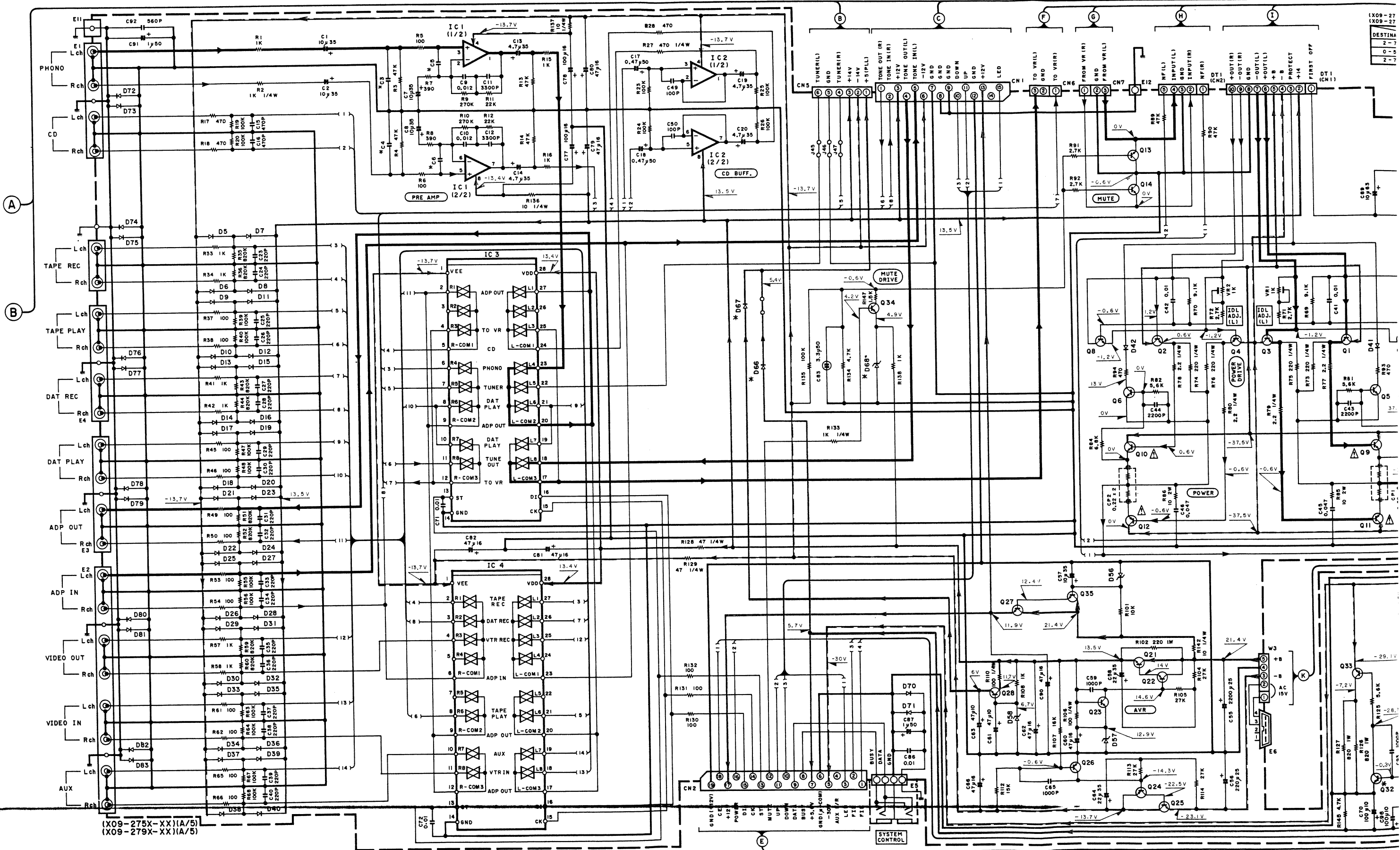
- JA101  
JC501  
2SA1284  
2SA733 (A)  
2SA992  
2SC1845  
2SC1923  
2SC2003  
2SC2878  
2SC3244  
2SC945 (A)
- 2SD1266
- 2SA1489\*5
- 2SC3853\*5
- 2SA937F  
2SC2021F
- 2SA933S  
2SC1740S
- 2SC4137
- NJM4560D-A
- LM7001
- AN7470
- M5218P-A



- M51951ASL
- 2SK105
- TC9163N  
TC9164N
- LA1265
- CXP5016-311Q  
CXP5016-313S
- LB1641

**CAUTION:** For continued safety, replace safety critical components only with manufacturer's recommended parts (refer to parts list). Indicates safety critical components. To reduce the risk of electric shock, leakage-current or resistance measurements shall be carried out (exposed parts are acceptably insulated from the supply circuit) before the appliance is returned to the customer.

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- Les tensions c.c. doivent être mesurées avec un voltmètre à haute impédance. Les valeurs peuvent différer légèrement du fait des variations inhérentes aux appareils et aux instruments de mesure individuels.
- Die angegebenen Gleichspannungswerte wurden mit einem hochohmigen Voltmeter gemessen. Dabei schwanken die Meßwerte aufgrund von Unterschieden zwischen einzelnen Instrumenten oder Geräten u. U. geringfügig.



DESTINATION	Ref. No.	D52 ~ 55, 59 ~ 62, 69, 84	D5 ~ 40, 70 ~ 83	D56	D58	D65	D66, 67	D68	Q22, 23, 25	C3, 4	C5, 6	C94, 95
2-71	E	S5566B	ISS133 or HSS104	RD13ES(B2)	RD6, 8ES	RD6, 2ES	ISS133	RD3, 9ES(B2)	25C945(A)(Q, P) or 25C17405(Q, R)	330P	1500P	560P
0-52	T	S5566B	ISS133 or HSS104	HZS13N(B2)	RD6, 8ES	RD6, 2ES	ISS133	RD3, 9ES(B2)	25C945(A)(Q, P) or 25C17405(Q, R)	220P	1000P	-
2-72	E, F	1N4004	1N4148	BZX55-C13			1N4148	BZX55-C3V9	JCS01(P, Q)	330P	1500P	560P

MADE	SINGAPOLE MADE
E, T	E, T
2-71	0-52
2-72	NO
NO	NO
NO	2-71
NO	0-52

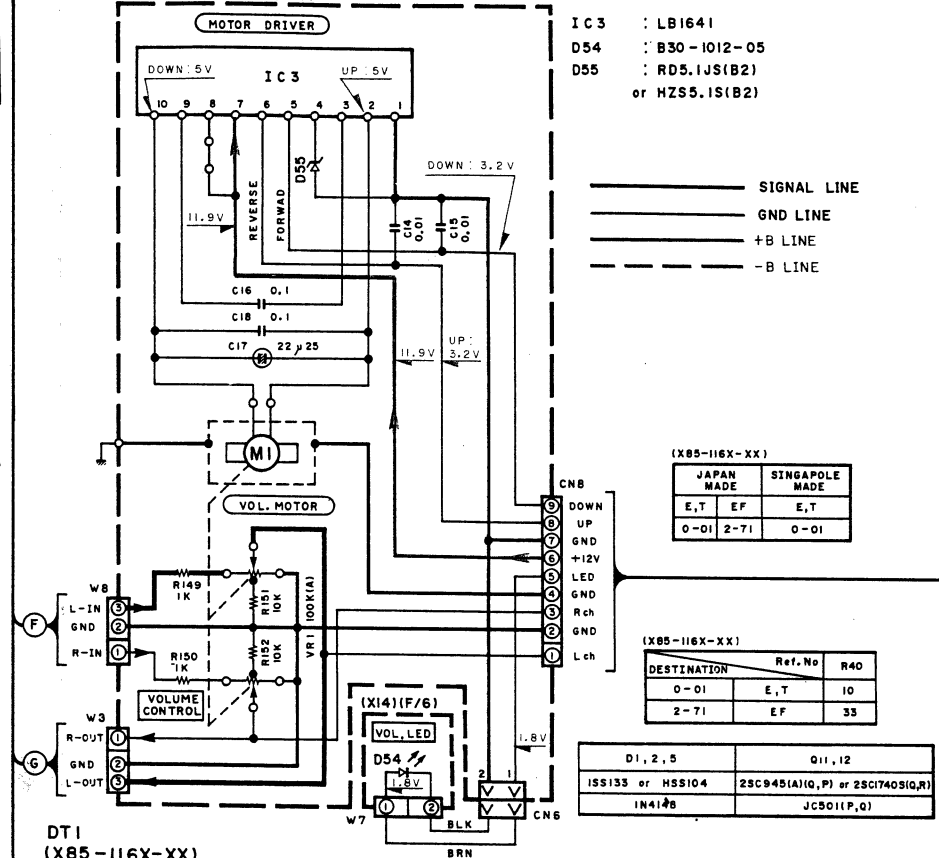
Q24, 26, 31, 34	Q29	Q32	F2	J196
25A733(A)(Q, P) or 25A933S(Q, R)	C945	A733	YES	NO
25A733(A)(Q, P) or 25A933S(Q, R)	C945	A733	NO	YES
JAI01(P, Q)	JCS01	JAI01	YES	NO

(X09-275X-XX)  
 IC1, 2 : M5218P-A  
 IC3 : TC9163N  
 IC4 : TC9164N  
 Q1, 2 : 2SC3244  
 Q3, 4 : 2SA1284  
 Q5, 6 : 2SC1845(F, E)  
 Q7, 8 : 2SC4137  
 Q9, 10 : 2SC3853\*5  
 Q11, 12 : 2SA1489\*5  
 Q13, 14 : 2SC2878(B)  
 Q21, 25, 27, 33 : 2SD1266  
 Q22, 23, 35 : \*  
 Q24, 26, 31, 34 : \*  
 Q28 : 2SC2003(L, K)

(X09-275X-XX)(B/5)  
 (X09-279X-XX)(B/5)  
 (X09-275X-XX)(C/5)  
 (X09-279X-XX)(C/5)

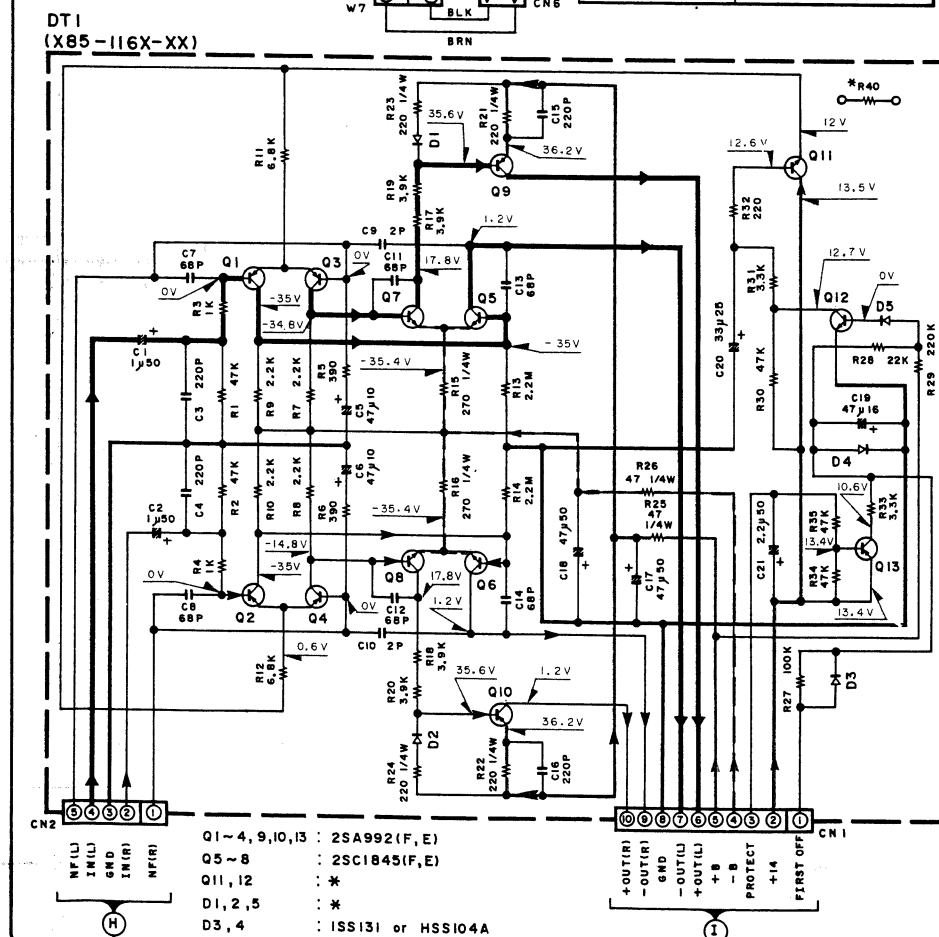
D5 ~ 40, 70 ~ 83 : \*  
 D41, 42 : ISS131 or HSS104A  
 D51 : RBV-402LFA or D3SBA20F03  
 D52 ~ 55, 59 ~ 62, 69, 84 : \*  
 D56 : \*  
 D57 : RD13ES(B2)  
 D58 : \*  
 D63, 64 : ISS131  
 D65 : \*  
 D66, 67 : \*  
 D68 : \*

(X14-237X-XX)(E/6)  
 (X14-248X-XX)(E/6)



DESTINATION	Ref. No.	R40
0-01	E, T	10
2-71	E, F	33

DESTINATION	Ref. No.	R40
0-01	E, T	10
2-71	E, F	33



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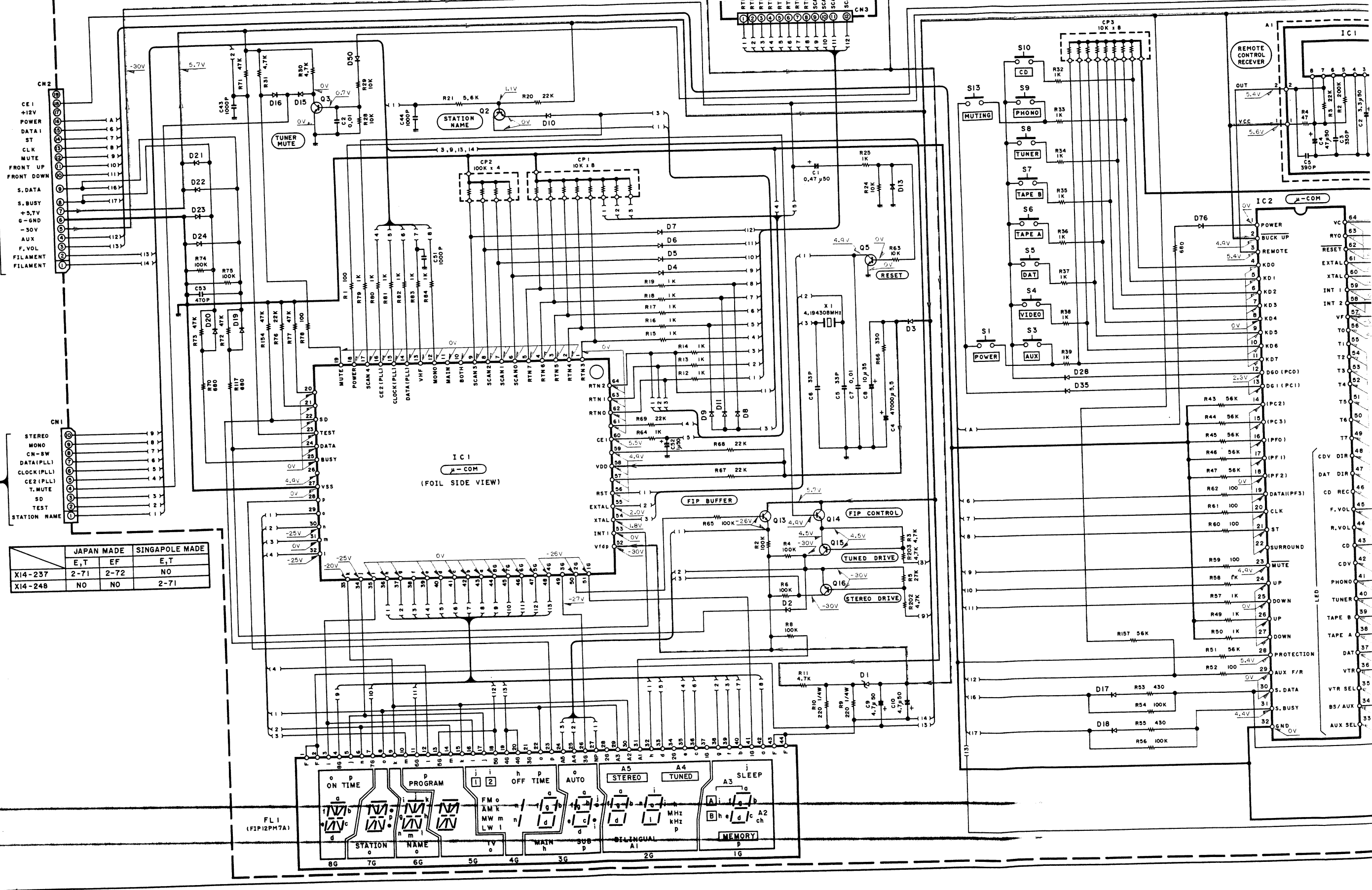
- DC voltages are measured with a high impedance voltmeter. Values may vary slightly due to variations between individual instruments or/and units.
- Les tensions c.c. doivent être mesurées avec un voltmètre à haute impédance. Les valeurs peuvent différer légèrement du fait des variations inhérentes aux appareils et aux instruments de mesure individuels.
- Die angegebenen Gleichspannungswerte wurden mit einem hochohmigen Voltmeter gemessen. Dabei schwanken die Meßwerte aufgrund von Unterschieden zwischen einzelnen Instrumenten oder Geräten u. U. geringfügig.

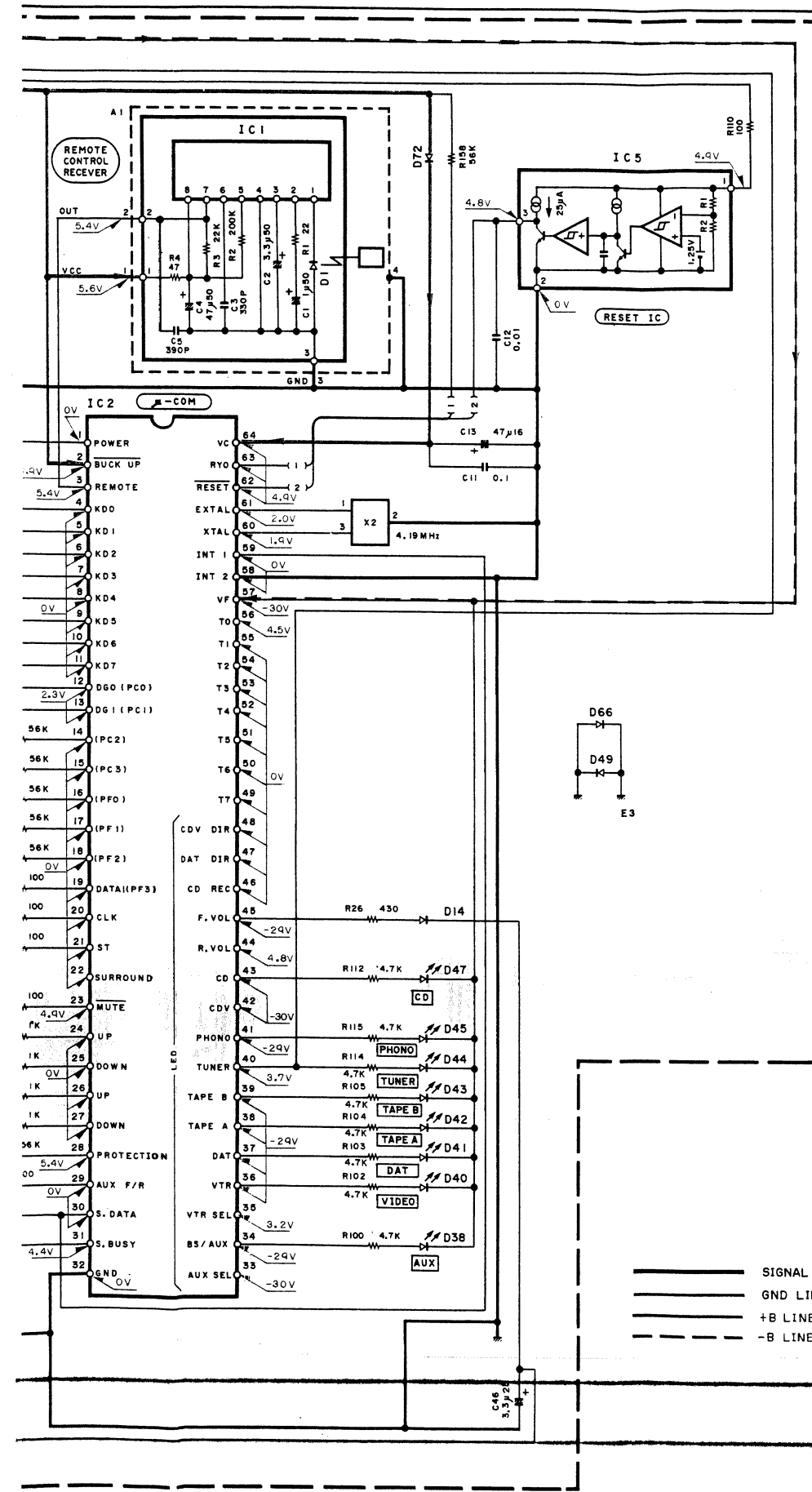
R-42L(E)(2/3)

**R-42L/XL**  
**KENWOOD**

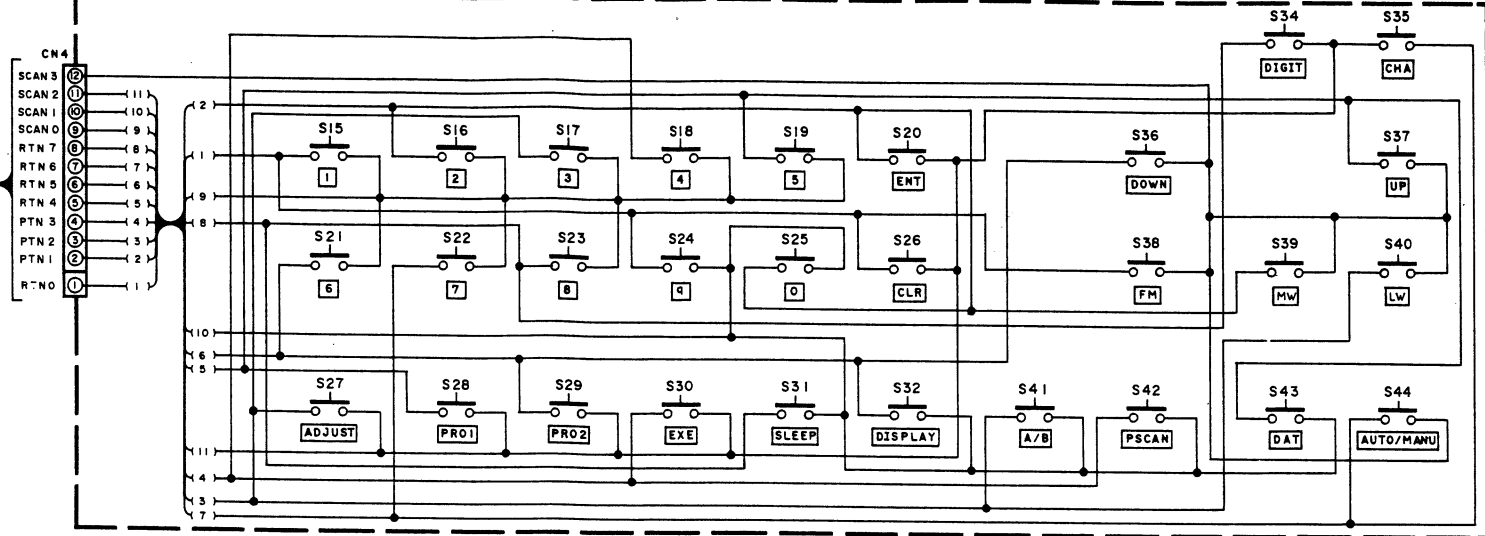


(X14-237X-XX) (A/6)





(X14-237X-XX)(B/6)



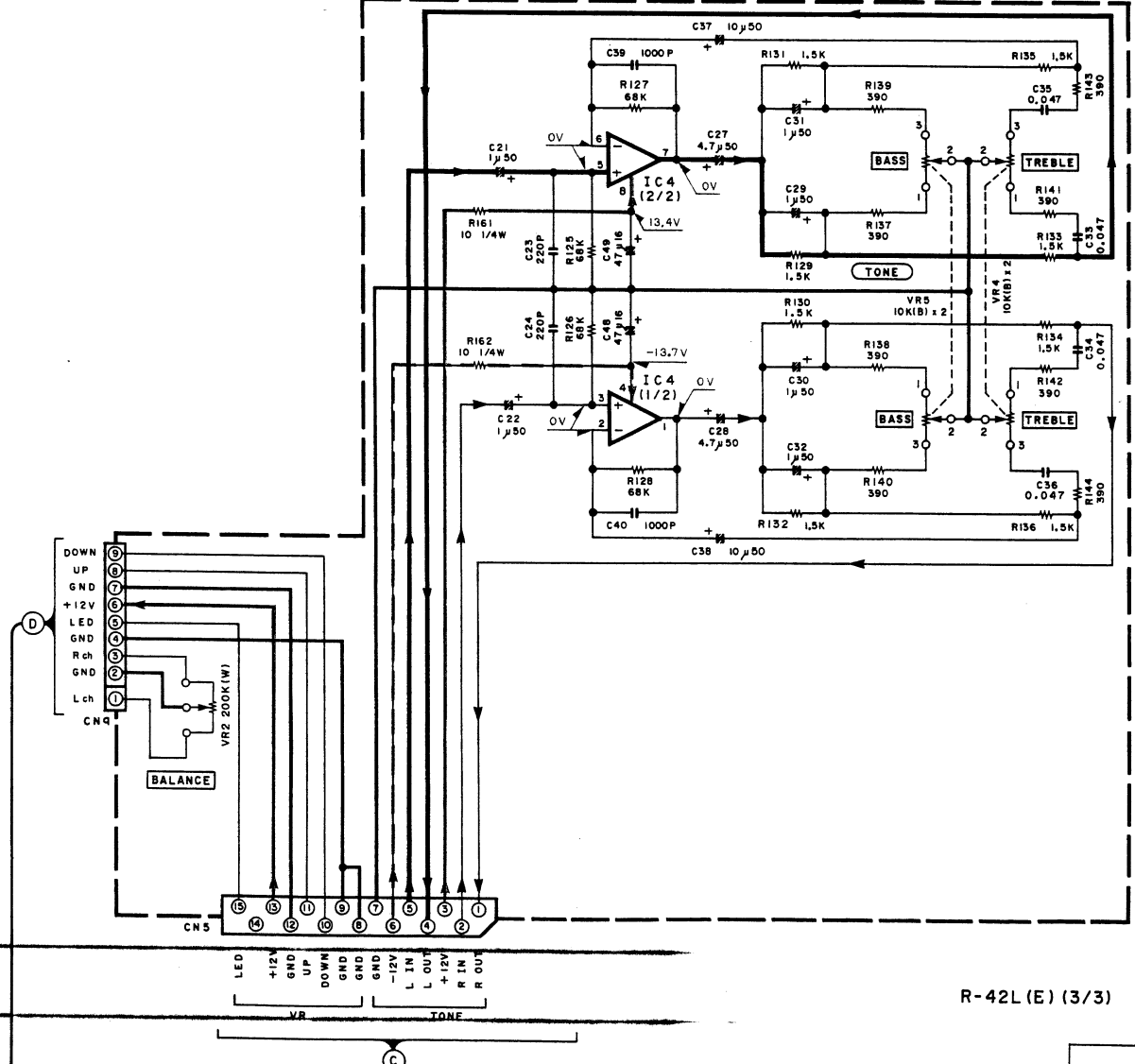
- FL1 : FIPI2PM7A  
IC1 : CX5016-311Q  
IC2 : CX5016-313S  
IC4 : M5218P-A or NJM4560D-A  
IC5 : M5195IASL

- Q2,15,16 : 2SA937F  
Q13,14 : 2SC2021F

- D2 : HSS104A or ISS131  
D38,40 ~ 45,47 : B30-0483-05

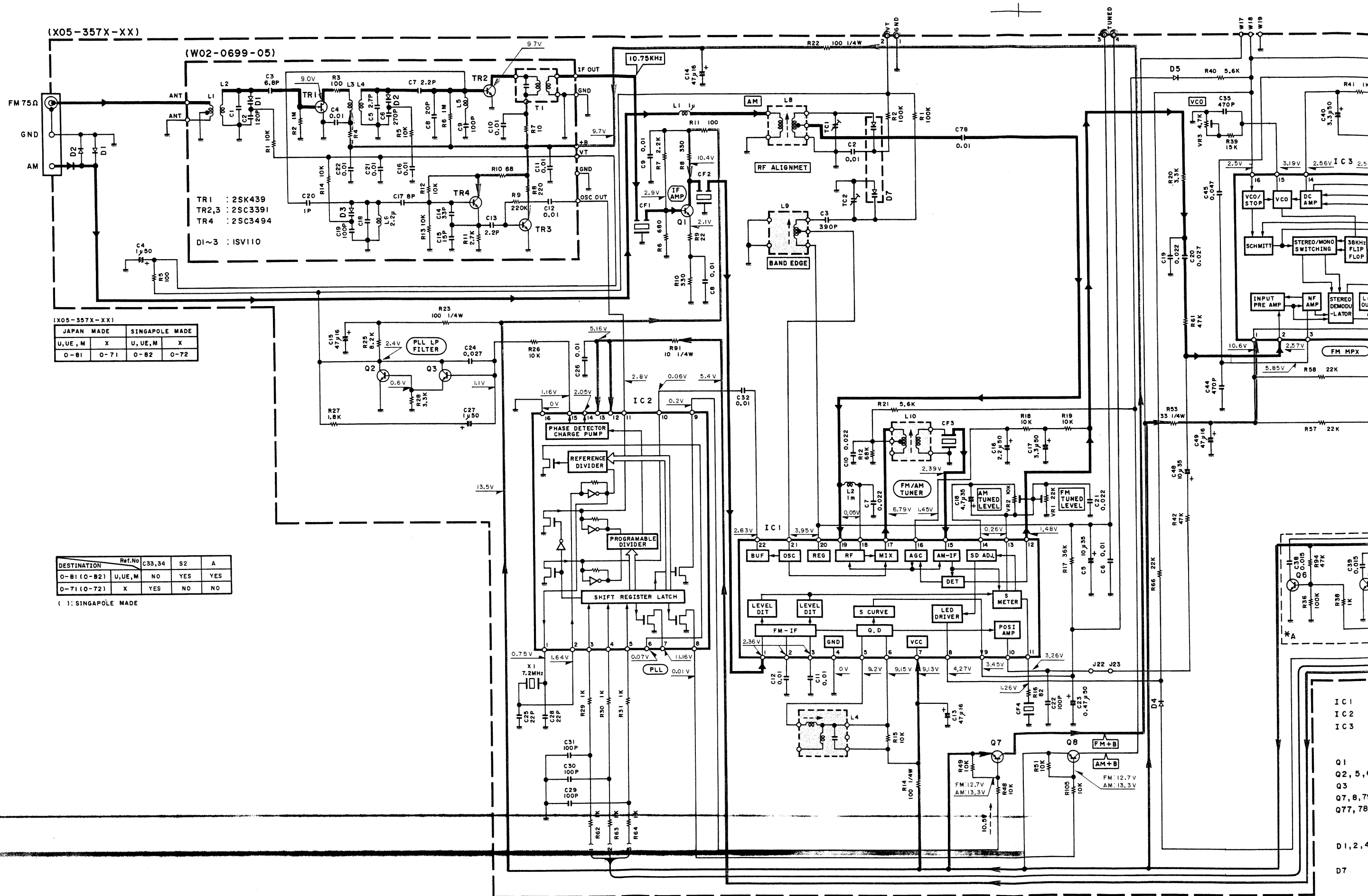
	D1	Q3,5	D3-11,13-24, 28,36,48,50, 66,72
2-71 (E,T)	HZS6.2N(B2)	2SC1740S(Q,R) or 2SC945	HSS104 or ISS133
2-72 (EF)	BZX85-C6V2	JC501(P,Q)	IN4148

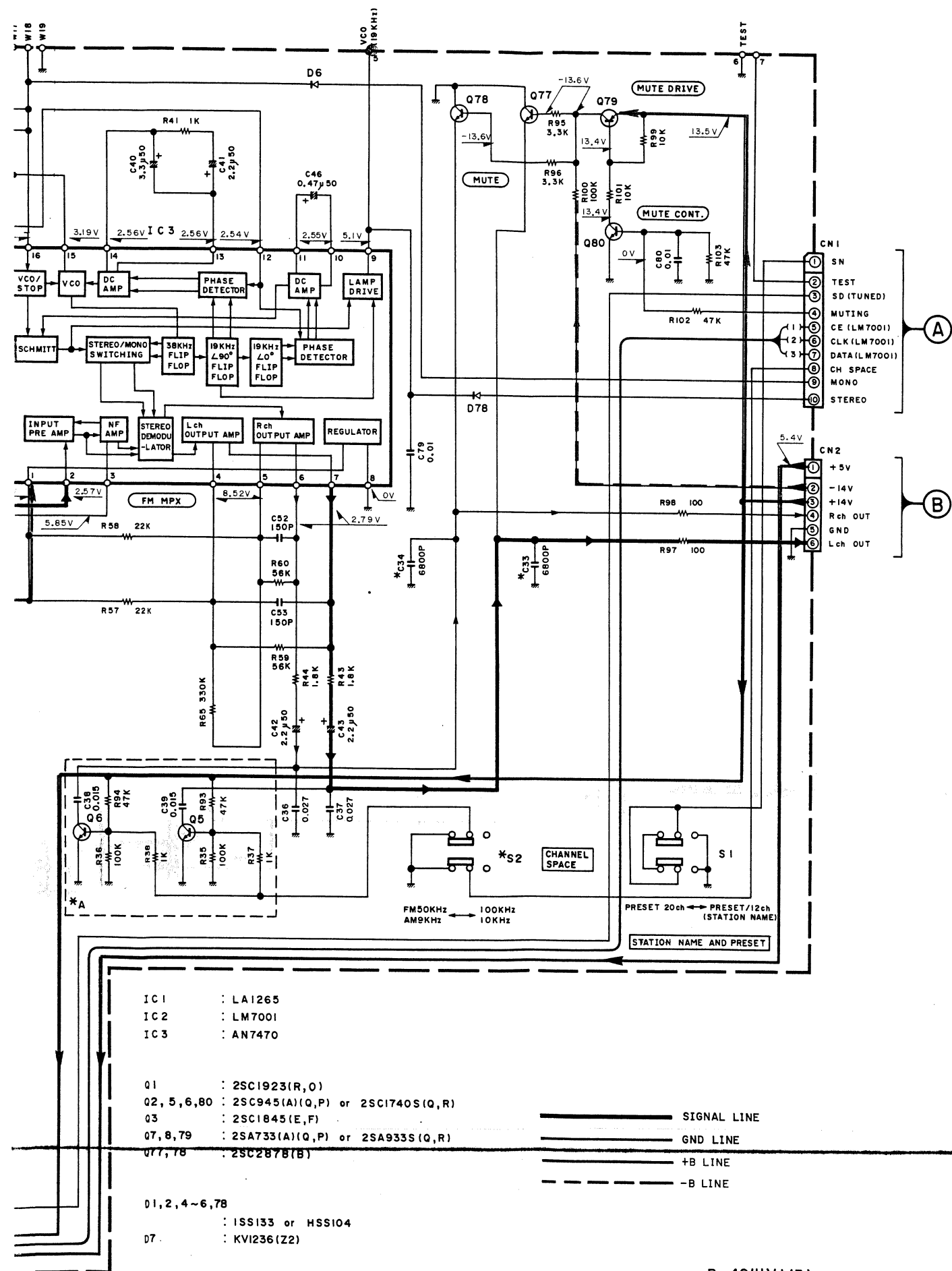
(X14-237X-XX)(D/6)



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JA101  
 JC501  
 2SA1284  
 2SA733 (A)  
 2SA992  
 2SC1845  
 2SC1923  
 2SC2003  
 2SC2878  
 2SC3244  
 2SC945 (A)

2SD1266

2SA1489\*5

2SC3853\*5

2SA937F  
 2SC2021F

2SA933S  
 2SC1740S

2SC4137

NJM4560D-A

LM7001

AN7470

M5218P-A

M51951ASL

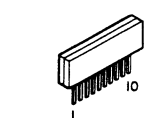
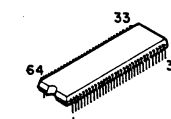
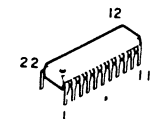
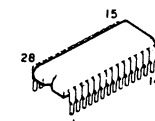
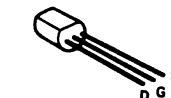
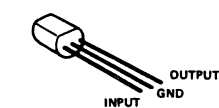
2SK105

TC9163N  
 TC9164N

LA1265

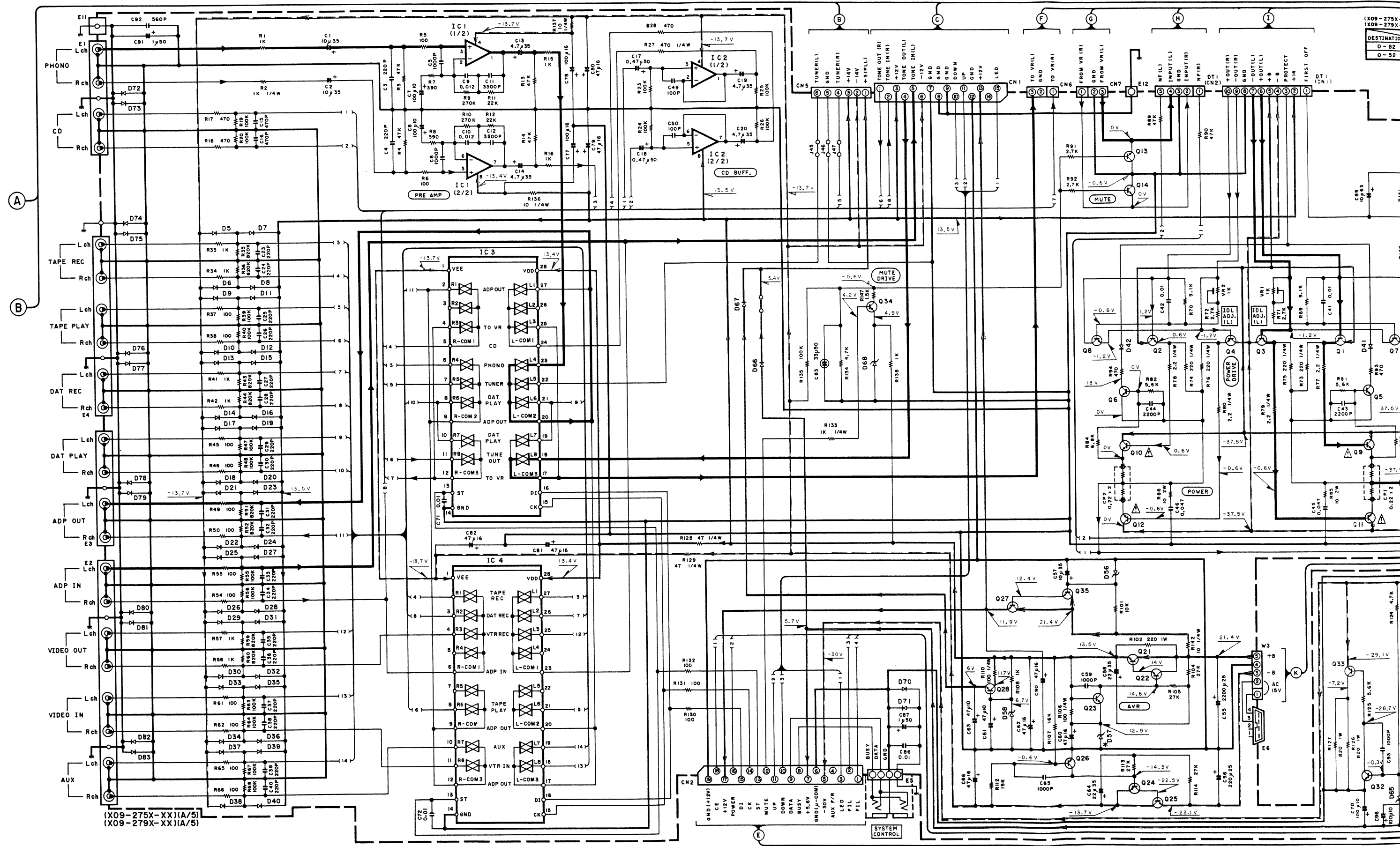
CXP5016-311Q  
 CXP5016-313S

LB1641



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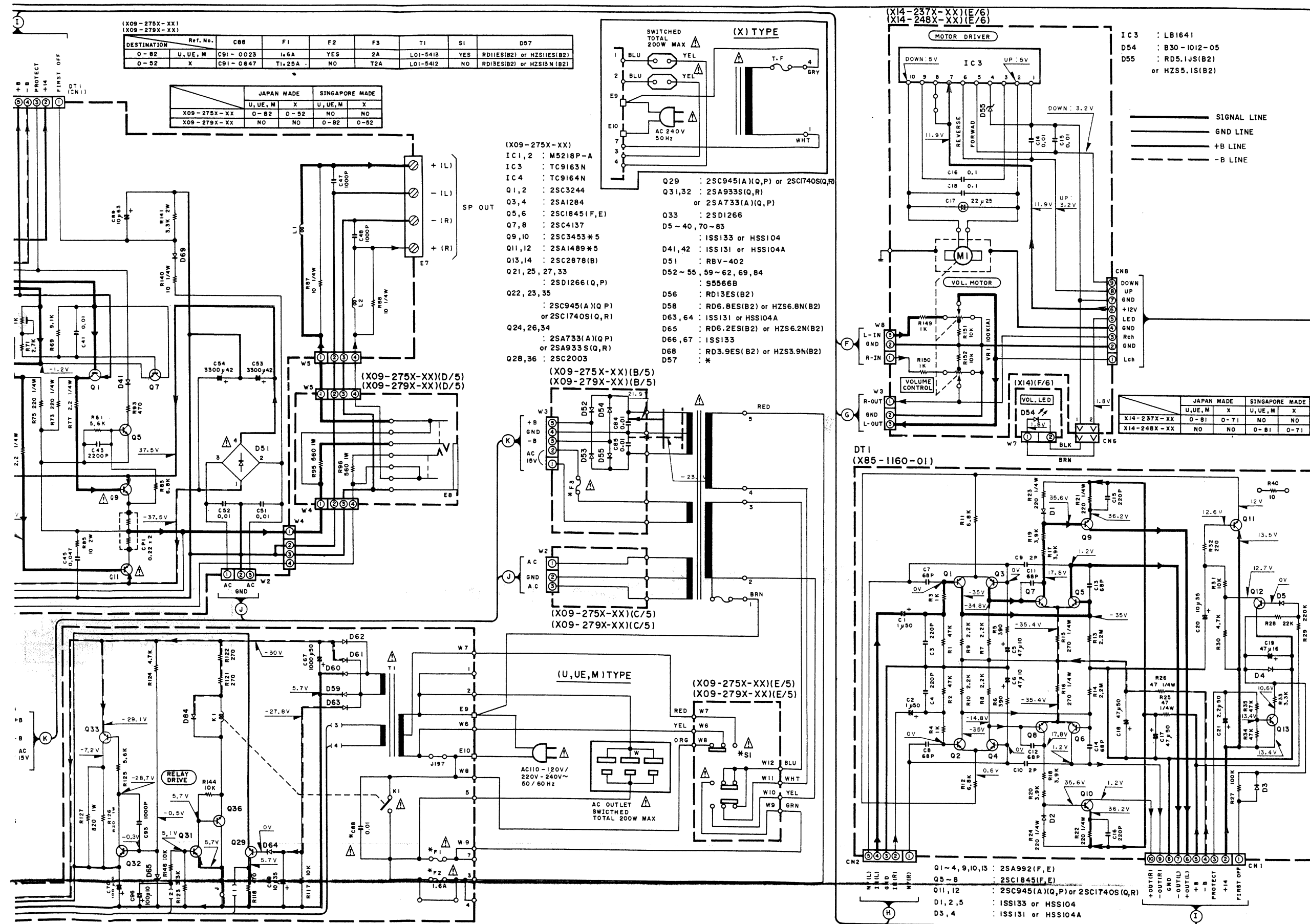
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DESTINATION	
0 - 82	
0 - 82	

(X09-275X-XX)(A/5)  
(X09-279X-XX)(A/5)

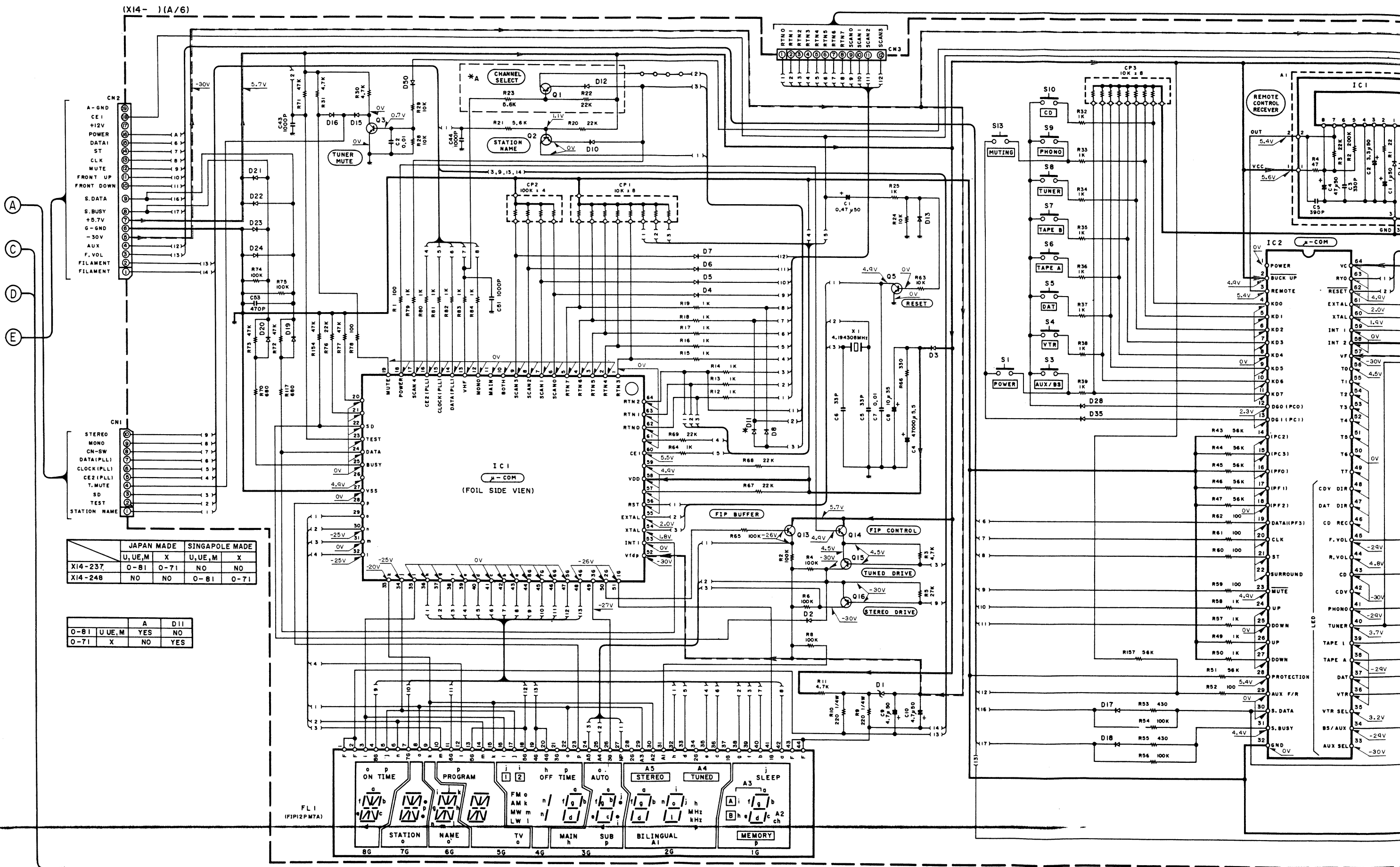


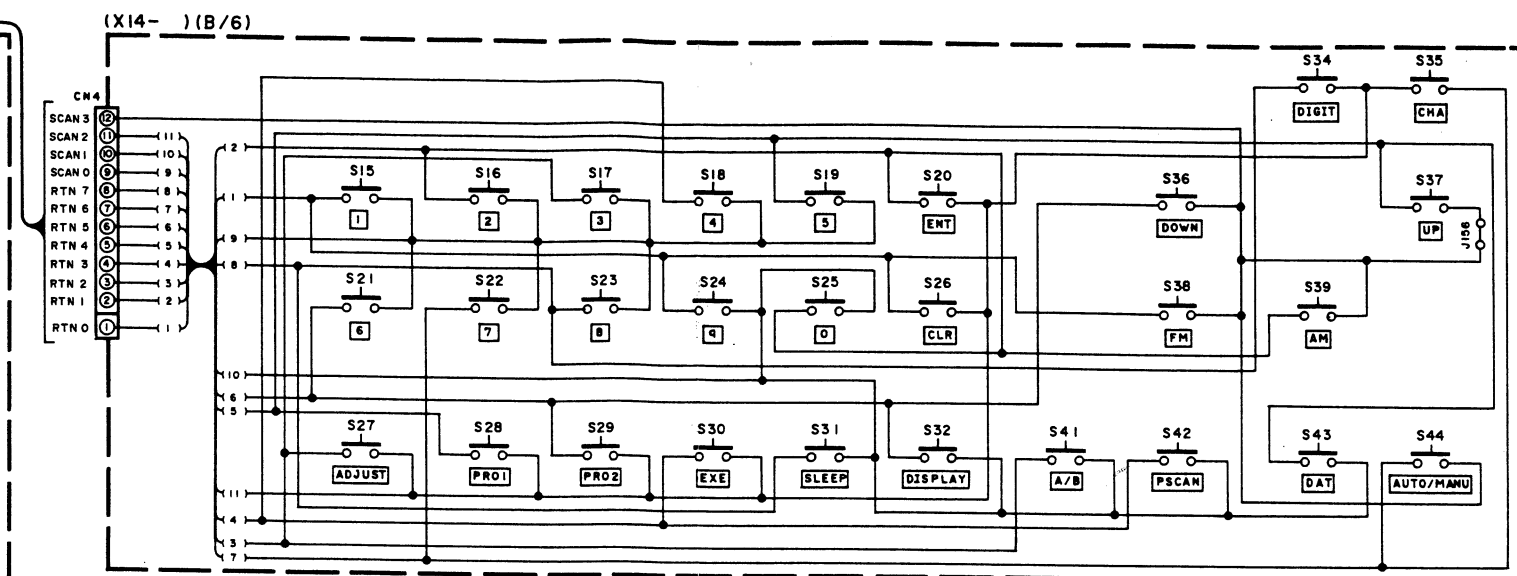
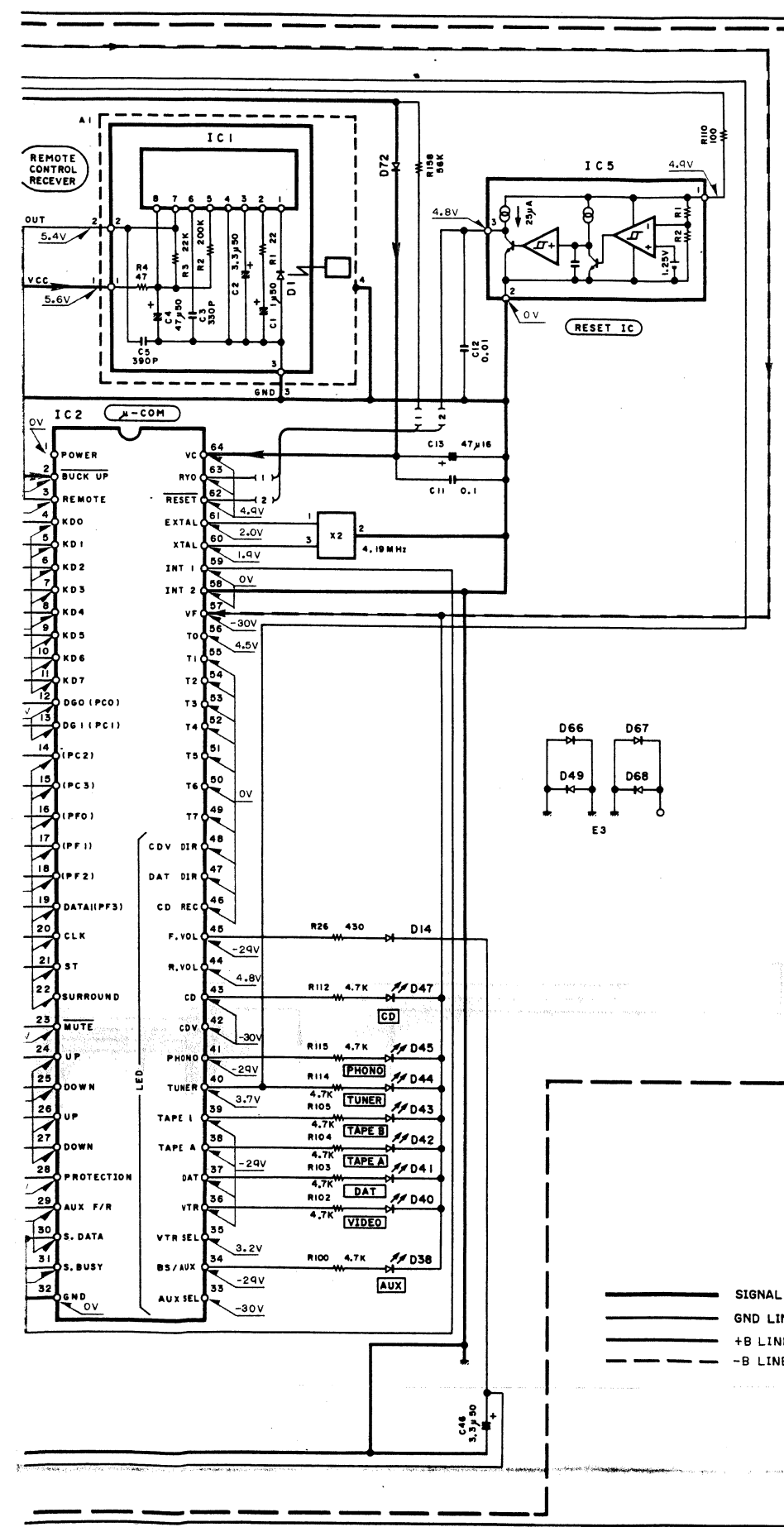


**CAUTION:** For continued safety, replace safety critical components only with manufacturer's recommended parts (refer to parts list).  $\Delta$  Indicates safety critical components. To reduce the risk of electric shock, leakage-current or resistance measurements shall be carried out (exposed parts are acceptably insulated from the supply circuit) before the appliance is returned to the customer.

- DC voltages are measured with a high impedance voltmeter. Values may vary slightly due to variations between individual instruments or/and units.
- Les tensions c.c. doivent être mesurées avec un voltmètre à haute impédance. Les valeurs peuvent différer légèrement du fait des variations inhérentes aux appareils et aux instruments de mesure individuels.
- Die angegebenen Gleichspannungswerte wurden mit einem hochohmigen Voltmeter gemessen. Dabei schwanken die Meßwerte aufgrund von Unterschieden zwischen einzelnen Instrumenten oder Geräten u. U. geringfügig.

R-42(U)(2/3)

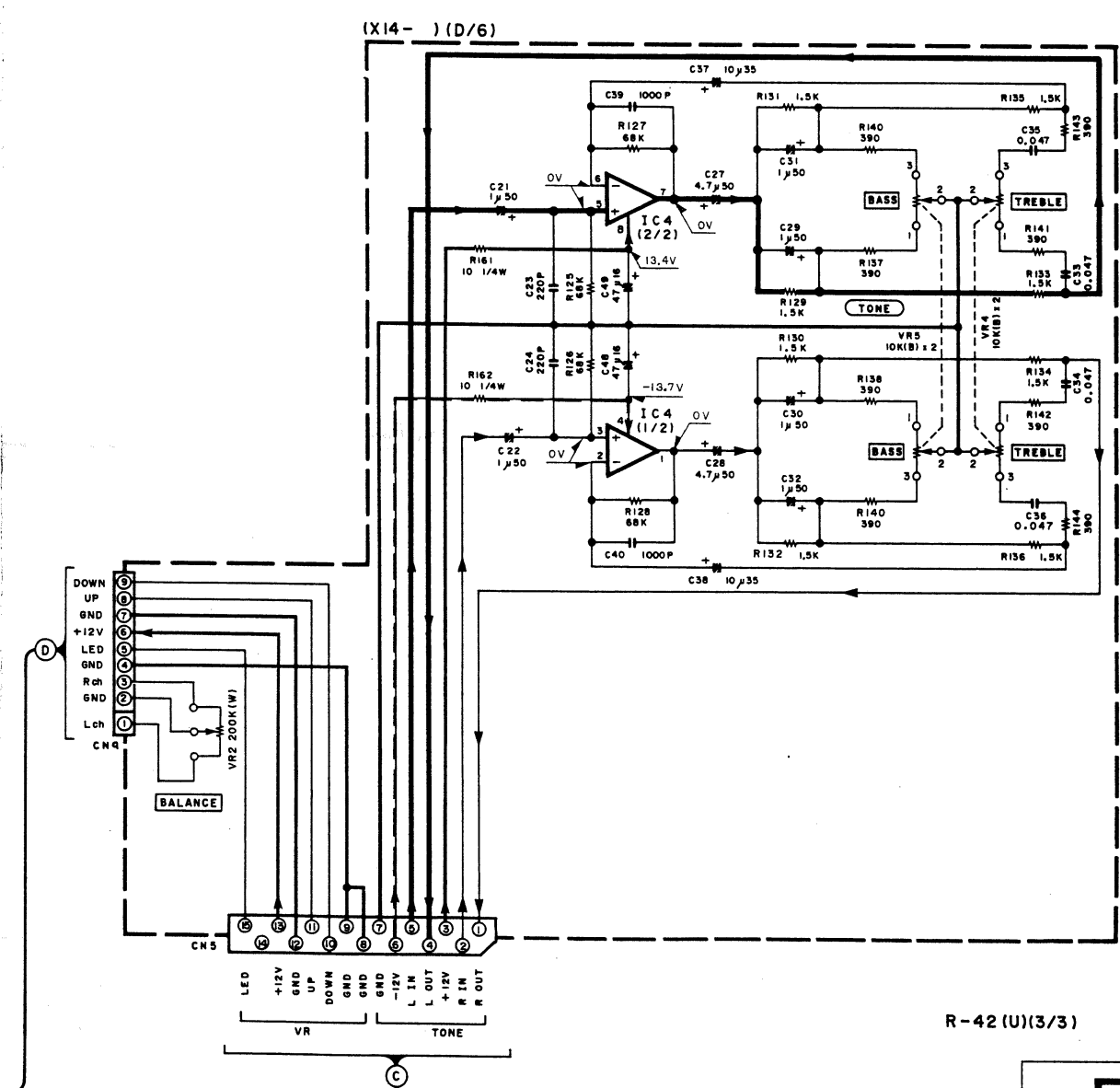




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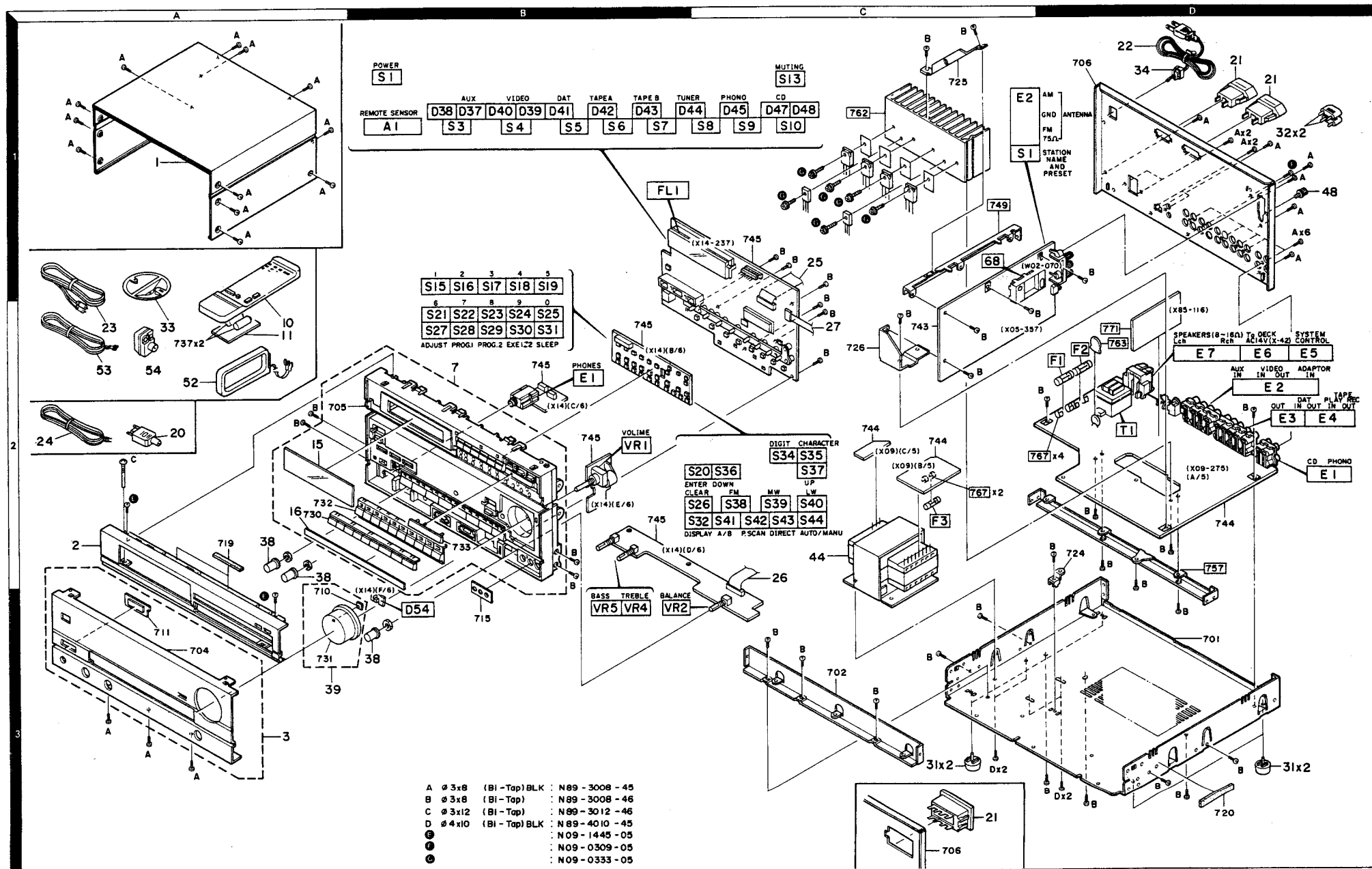
- IC1 : CXPS016-311Q  
 IC2 : CXPS016-313S  
 IC4 : M5218P-A or NJM4560D-A  
 IC5 : M5195IASL
- Q1,2 : 2SA937F  
 Q3,5 : 2SC1740S(Q,R) or 2SC945(A)(Q,P)  
 Q13,14 : 2SC2021F  
 Q15,16 : 2SA937F
- D1 : HZS6.2N(B2) or RD6.2ES(B2)  
 D2 : HSS104A or HS131  
 D3 ~ 8,10 ~ 24,28,35,49,50,66 ~ 68,72 : HSS104 or HS133  
 D38,40 ~ 45,47 : B30-0483-05



R-42 (U)(3/3)



## EXPLODED VIEW



## PARTS LIST

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Ref. No. 参照番号	Address 位置	New Parts	Parts No. 部品番号	Description 部品名 / 規格	Desti- nation 仕向	Re- marks 備考
<b>R-42/L/XL</b>						
1	1A	*	A01-1674-02	METALLIC CABINET		
2	2A	*	A20-5583-02	PANEL	XUUEM	
2	2A	*	A20-5648-02	PANEL	ETEF	
3	3A	*	A20-5586-02	PANEL ASSY	XL	
3	3A	*	A20-5647-02	PANEL ASSY	L	
3	3A	*	A20-5659-02	PANEL ASSY	XUUEM	
7	2B	*	A22-0996-02	SUB PANEL ASSY	XUUEM	
7	2B	*	A22-1052-02	SUB PANEL ASSY	ETEF	
10	2A	*	A70-0231-05	REMOTE CONTROLLER ASSY	XL	J
10	2A	*	A70-0232-05	REMOTE CONTROLLER ASSY	LXUUEM	J
10	2A	*	A70-0248-05	REMOTE CONTROLLER ASSY	XL	S
10	2A	*	A70-0249-05	REMOTE CONTROLLER ASSY	XUUEML	S
11	2A	*	A09-0073-08	BATTERY COVER (REMOTE CONTROL)		
15	2A		B03-2471-04	DRESSING PLATE		
16	2A		B03-2477-04	DRESSING PLATE		
-			B46-0094-03	WARRANTY CARD	UUE	
-			B46-0095-03	WARRANTY CARD	UUE	
-			B46-0096-13	WARRANTY CARD	X	
-			B46-0122-13	WARRANTY CARD	E	
-			B46-0143-03	WARRANTY CARD	T	
-		*	B50-9072-00	INSTRUCTION MANUAL (ENGLISH)	E1T1	J
-		*	B50-9073-00	INSTRUCTION MANUAL (FRENCH)	E1	J
-		*	B50-9074-00	INSTRUCTION MANUAL (ENGLISH)	E2T2XU	J
-		*	B50-9074-00	INSTRUCTION MANUAL (ENGLISH)	UEM	J
-		*	B50-9075-00	INSTRUCTION MANUAL (FRENCH)	E2M	J
-		*	B50-9076-00	INSTRUCTION MANUAL (D.G.I)	E2	J
-		*	B50-9245-00	INSTRUCTION MANUAL (SPANISH)	M	J
-		*	B50-9294-00	INSTRUCTION MANUAL (ENGLISH)	E1T1	S
-		*	B50-9295-00	INSTRUCTION MANUAL (FRENCH)	E1	S
-		*	B50-9296-00	INSTRUCTION MANUAL (ENGLISH)	E2T2	S
-		*	B50-9296-00	INSTRUCTION MANUAL (ENGLISH)	XUUEM	S
-		*	B50-9297-00	INSTRUCTION MANUAL (FRENCH)	E2M	S
-		*	B50-9298-10	INSTRUCTION MANUAL (D.G)	E2	S
-		*	B50-9299-00	INSTRUCTION MANUAL (SPANISH)	M	S
-		*	B50-9380-00	INSTRUCTION MANUAL (ITALIAN)	E2	S
-		*	B52-0271-00	CONNECTING DIAGRAM	E1T1	J
-		*	B52-0287-00	CONNECTING DIAGRAM	E2T2	J
-		*	B52-0288-00	CONNECTING DIAGRAM	XUUEM	J
-		*	B52-0291-00	CONNECTING DIAGRAM	EF1	
-		*	B52-0292-00	CONNECTING DIAGRAM	EF2	
-		*	B52-0293-00	CONNECTING DIAGRAM	E1T1	S
-		*	B52-0294-00	CONNECTING DIAGRAM	E2T1	S
-		*	B52-0295-00	CONNECTING DIAGRAM	XUUEM	S
-			B58-0223-04	CAUTION CARD (PRE-SET 120V)	U	
-			B58-0513-04	CAUTION CARD (PRESET220-240)	UE	
-			B58-0803-13	CAUTION CARD	EEF	
-			B59-0092-00	SERVICE DIRECTORY	UUE	
-		*	N0 STOCK	B46-0139-03 WARRANTY CARD	EF	
-		*	N0 STOCK	B50-9290-00 INSTRUCTION MANUAL	EF1	
-		*	N0 STOCK	B50-9291-00 INSTRUCTION MANUAL	EF1	
-		*	N0 STOCK	B50-9292-00 INSTRUCTION MANUAL	EF2	
-		*	N0 STOCK	B50-9293-00 INSTRUCTION MANUAL	EF2	

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20	2A	*	B03-0049-05	AC PLUG		T
21	1D		E03-0055-05	AC OUTLET		EEF
21	3C		E03-0072-05	AC OUTLET		UUEM
21	1D		E03-0085-05	AC OUTLET		T
22	1D		E30-0459-05	AC POWER CORD		EEF
22	1D		E30-0812-05	AC POWER CORD		UUEM
22	1D		E30-1341-05	AC POWER CORD		X
23	2A		E30-1392-05	CORD WITH PLUG		T
24	1D		E30-1416-05	AC POWER CORD		
25	1C	*	E31-4833-05	WIRING HARNESS		
26	2C	*	E31-4834-05	WIRING HARNESS		
27	2C	*	E31-4835-05	WIRING HARNESS		
-		*	H01-7949-04	ITEM CARTON CASE		E1T1
-		*	H01-8360-04	ITEM CARTON CASE		E2T2
-		*	H01-8361-04	ITEM CARTON CASE		XUUEM
-		*	H01-8362-04	ITEM CARTON CASE		EF1
-		*	H01-8363-04	ITEM CARTON CASE		EF2
-		*	H01-8364-04	ITEM CARTON CASE		E1T1
-		*	H01-8367-04	ITEM CARTON CASE		E2T2
-		*	H01-8368-04	ITEM CARTON CASE		XUUEM
-		*	H10-3666-02	POLYSTYRENE FOAMED FIXTURE(L)		ETXUUE
-		*	H10-3666-02	POLYSTYRENE FOAMED FIXTURE(L)		M
-		*	H10-3667-02	POLYSTYRENE FOAMED FIXTURE(R)		ETXUUE
-		*	H10-3667-02	POLYSTYRENE FOAMED FIXTURE(R)		M
-		*	H10-3731-02	POLYSTYRENE FOAMED FIXTURE(L)		J
-		*	H10-3732-02	POLYSTYRENE FOAMED FIXTURE(L)		J
-		*	H10-3749-02	POLYSTYRENE FOAMED FIXTURE(L)		S
-		*	H10-3750-02	POLYSTYRENE FOAMED FIXTURE(R)		EF
-			H25-0181-04	PROTECTION BAG (150X260X0.05)		
-			H25-0232-04	PROTECTION BAG (235X350X0.03)		
-			H25-0274-04	PROTECTION BAG (900X500X0.05)		
31	3C, 3D		J02-0366-15	FOOT		
32	1D		J12-0091-05	PIN		
33	2A		J19-2815-04	ANTENNA HOLDER		
34	1D		J42-0083-05	POWER CORD BUSHING		
-			J61-0307-05	WIRE BAND		
38	2A, 3B		K29-2506-14	KN0B (TONE/BAL)		J
38	2A, 3B		K29-3236-04	KN0B (TONE/BAL)		S
39	3A		K29-2767-04	KN0B ASSY (VOLUME)		
44	2C	*	L01-5402-05	POWER TRANSFORMER		E
44	2C	*	L01-5402-05	POWER TRANSFORMER		EE
44	2C	*	L01-5405-05	POWER TRANSFORMER		UUEM
44	2C	*	L01-5407-05	POWER TRANSFORMER		TX
48	1D		N08-0128-35	BINDING POST (6ND)		
E			N09-1445-05	SET SCREW (M3XB)		
F			N09-0309-05	TAPTITE SCREW (3XB)		
52	2A		N0 STOCK	T90-0153-05 LOOP ANTENNA		EF
52	2A		T90-0104-25	LOOP ANTENNA		UUEM
52	2A		T90-0138-15	LOOP ANTENNA		ETX
53	2A		T90-0121-05	T TYPE ANTENNA		
54	2A		T90-0136-05	ANTENNA ADAPTOR		
<b>TUNER UNIT (X05-357x-xx)</b>						
C2			CK45FF1H103Z	CERAMIC 0.010UF Z		

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# R-42/L/XL

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Ref. No. 参照番号	Address 位置	New Parts 新	Parts No. 部品番号	Description 部品名 / 規格	Desti- nation 仕向	Re- marks 備考
C3			CC93FCH1H391J	CERAMIC 390PF J		
C4			CE04KW1H010M	ELECTR0 1.0UF 50WV		
C5			CE04KW1V100M	ELECTR0 10UF 35WV		
C6			CK45FF1H103Z	CERAMIC 0.010UF Z		
C7			CK45FF1H223Z	CERAMIC 0.022UF Z		
C8 ,9			CK45FF1H103Z	CERAMIC 0.010UF Z		
C10			CK45FF1H223Z	CERAMIC 0.022UF Z		
C11 ,12			CK45FF1H103Z	CERAMIC 0.010UF Z		
C13 -15			CE04KW1C470M	ELECTR0 47UF 16WV		
C16			CE04KW1H2R2M	ELECTR0 2.2UF 50WV		
C17			CE04KW1H3R3M	ELECTR0 3.3UF 50WV		
C18			CE04KW1V4R7M	ELECTR0 4.7UF 35WV		
C19			CF92FV1H223J	MF 0.022UF J		
C20			CF92FV1H273J	MF 0.027UF J		
C21			CK45FF1H223Z	CERAMIC 0.022UF Z		
C22			CC45FSL1H101J	CERAMIC 100PF J		
C23			CE04KW1HR47M	ELECTR0 0.47UF 50WV		
C24			CF92FV1H273J	MF 0.027UF J		
C25			CC45FCH1H220J	CERAMIC 22PF J		
C26			CK45FF1H103Z	CERAMIC 0.010UF Z		
C27			CE04KW1H010M	ELECTR0 1.0UF 50WV		
C28			CC45FCH1H220J	CERAMIC 22PF J		
C29 -31			CC45FSL1H101J	CERAMIC 100PF J		
C32			CK45FF1H103Z	CERAMIC 0.010UF Z		
C35			CC93FCH1H471J	CERAMIC 470PF J		
C36 ,37			CF92FV1H273J	MF 0.027UF J	XUJEM	
C38 ,39			CF92FV1H153J	MF 0.015UF J	UJEM	
C40			CE04KW1H3R3M	ELECTR0 3.3UF 50WV		
C41 -43			CE04KW1H2R2M	ELECTR0 2.2UF 50WV		
C44			CK45FB1H471K	CERAMIC 470PF K		
C45			CF92FV1H473J	MF 0.047UF J		
C46			CE04KW1HR47M	ELECTR0 0.47UF 50WV		
C48			CE04KW1V100M	ELECTR0 10UF 35WV		
C49			CE04KW1C470M	ELECTR0 47UF 16WV		
C50 ,51			CE04KW1C220M	ELECTR0 22UF 16WV	ETEF	
C52 ,53			CC45FSL1H151J	CERAMIC 150PF J	XUJEM	
C52 ,53			CF92FV1H122J	MF 1200PF J	ETEF	
C54			CC45FSL1H151J	CERAMIC 150PF J	ETEF	
C71			C91-0085-05	CERAMIC 0.022UF N	ETEF	
C72			CC45FSL1H101J	CERAMIC 100PF J	ETEF	
C73			CC45FCH1H151J	CERAMIC 150PF J	ETEF	
C74			CC93FCH1H221J	CERAMIC 220PF J	ETEF	
C75 -78			CK45FF1H223Z	CERAMIC 0.022UF Z	ETEF	
C78			CK45FF1H223Z	CERAMIC 0.022UF Z	XUJEM	
C79 ,80			C91-0769-05	CERAMIC 0.01UF M		
E2			E20-0318-05	SCREW TERMINAL BOARD (ANT)		
TC1 ,2			C05-0303-05	CERAMIC TRIMMER CAPACITOR (20PF)		
TC3 ,4			C05-0097-05	CERAMIC TRIMMER CAPACITOR (30PF)	EE1T1	
TC3 ,4			C05-0097-05	CERAMIC TRIMMER CAPACITOR (30PF)	E2T2	
TC3 ,4			C05-0097-05	CERAMIC TRIMMER CAPACITOR (30PF)	EE	
CF1 ,2			L72-0531-05	CERAMIC FILTER	XUJEM	
CF1 ,2			L72-0536-05	CERAMIC FILTER	ETEF	
CF3			L72-0099-05	CERAMIC FILTER		
CF4			L72-0096-05	CERAMIC FILTER		
L1			L40-1092-17	SMALL FIXED INDUCTOR (1UH,M)		

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L2			L40-1021-14	SMALL FIXED INDUCTOR(1.0MH,K)		
L5			L30-0439-15	FM IFT	ETEF	
L6			L79-0125-05	LC FILTER	ETEF	
L7			L79-0739-05	LC FILTER		
L8			L31-0509-05	MW-RF COIL		
L9			L32-0277-15	MW OSCILLATING COIL		
L10			L30-0362-05	AM IFT	ETEF	
L71			L31-0499-05	LW-RF COIL	ETEF	
L72			L32-0288-05	LW OSCILLATING COIL	ETEF	
X1			L77-1122-05	CRYSTAL RESONATOR		
R14			RD14GB2E101J	FL-PR00F RD 100 J 1/4W		
R22 ,23			RD14GB2E101J	FL-PR00F RD 100 J 1/4W	ETEF	
R45			RD14GB2E101J	FL-PR00F RD 100 J 1/4W		
R53			RD14GB2E330J	FL-PR00F RD 33 J 1/4W		
R91			RD14GB2E100J	FL-PR00F RD 10 J 1/4W		
VR1			R12-3128-05	TRIMMING PST. (FM TUNER LEV)		
VR2			R12-3126-05	TRIMMING PST. (AM TUNER LEV)		
VR3			R12-1089-05	TRIMMING PST. (VCO)		
VR4			R12-5060-05	TRIMMING PST. (DETECTOR)	ETEF	
S1			S31-2132-05	SLIDE SWITCH (STATION NAME)	ETEF	
S1			S31-2132-05	SLIDE SWITCH (STATION NAME)	UUEMX	
S2			S31-2132-05	SLIDE SWITCH	UUEM	
D1 ,2			HSS104	DIODE	ET	
D1 ,2			HSS104	DIODE	XUUEM	
D1 ,2			1N4148	DIODE	EE	
D1 ,2			1SS133	DIODE	ET	
D1 ,2			1SS133	DIODE	XUUEM	
D4 -6			HSS104	DIODE	ET	
D4 -6			HSS104	DIODE	XUUEM	
D4 -6			1N4148	DIODE	EE	
D4 -6			1SS133	DIODE	ET	
D4 -6			1SS133	DIODE	XUUEM	
D7			KV1236(Z2)	VARIABLE CAPACITANCE DIODE		
D71			KV1236(Z2)	VARIABLE CAPACITANCE DIODE	ETEF	
D72 -75			HSS104	DIODE	ET	
D72 -75			1N4148	DIODE	EE	
D72 -75			1SS133	DIODE	ET	
D78			HSS104	DIODE	ET	
D78			HSS104	DIODE	XUUEM	
D78			1N4148	DIODE	EE	
D78			1SS133	DIODE	ET	
D78			1SS133	DIODE	XUUEM	
IC1			LA1265	IC(FM/AM TUNER)		
IC2			LM7001	IC(PLL FREQUENCY SYNTHESIZER)		
IC3			AN7470	IC(FM MPX)		
Q1			2SC1923(R,0)	TRANSISTOR		
Q2			JC501(P,0)	TRANSISTOR	EE	
Q2			2SC1740S(Q,R)	TRANSISTOR	ET	
Q2			2SC1740S(Q,R)	TRANSISTOR	XUUEM	
Q2			2SC945(A)(Q,P)	TRANSISTOR	ET	
Q2			2SC945(A)(Q,P)	TRANSISTOR	XUUEM	
Q3			2SC1845(F,E)	TRANSISTOR		
Q4			JC501(P,0)	TRANSISTOR	EE	
Q4			2SC1740S(Q,R)	TRANSISTOR	ET	

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Q4			2SC945(A)(Q,P)	TRANSISTOR	ET	
Q5 ,6			2SC1740S(Q,R)	TRANSISTOR	UUEM	
Q5 ,6			2SC945(A)(Q,P)	TRANSISTOR	UUEM	
Q7 ,8			JA101(P,Q)	TRANSISTOR	EE	
Q7 ,8			2SA733(A)(Q,P)	TRANSISTOR	ET	
Q7 ,8			2SA733(A)(Q,P)	TRANSISTOR		
Q7 ,8			2SA933S(Q,R)	TRANSISTOR	XUUEM	
Q7 ,8			2SA933S(Q,R)	TRANSISTOR	ET	
Q7 ,8			2SA933S(Q,R)	TRANSISTOR	XUUEM	
Q71 -73			JC501(P,0)	TRANSISTOR	EE	
Q71 -73			2SC1740S(Q,R)	TRANSISTOR	ET	
Q71 -73			2SC945(A)(Q,P)	TRANSISTOR	ET	
Q74			2SK105(F,H)	FET	ETEF	
Q75 ,76			JA101(P,Q)	TRANSISTOR	EE	
Q75 ,76			2SA733(A)(Q,P)	TRANSISTOR	ET	
Q75 ,76			2SA933S(Q,R)	TRANSISTOR	ET	
Q77 ,78			2SC2878(B)	TRANSISTOR		
Q79			JA101(P,Q)	TRANSISTOR	EE	
Q79			2SA733(A)(Q,P)	TRANSISTOR	ET	
Q79			2SA733(A)(Q,P)	TRANSISTOR	XUUEM	
Q79			2SA933S(Q,R)	TRANSISTOR	ET	
Q79			2SA933S(Q,R)	TRANSISTOR		
Q80			JC501(P,0)	TRANSISTOR	XUUEM	
Q80			2SC1740S(Q,R)	TRANSISTOR	EE	
Q80			2SC1740S(Q,R)	TRANSISTOR	ET	
Q80			2SC945(A)(Q,P)	TRANSISTOR	XUUEM	
Q80			2SC945(A)(Q,P)	TRANSISTOR	ET	
Q80			2SC945(A)(Q,P)	TRANSISTOR	XUUEM	
68	1C		W02-0699-05	FM FRONT-END ASSY	XUUEM	
68	1C		W02-0700-05	FM FRONT-END ASSY	ETEF	
AUDIO UNIT (X09-275x-xx, X09-279x-xx)						
C1 ,2			CE04KW1V100M	ELECTR0 10UF	35WV	
C3 ,4			CC45FSL1H221J	CERAMIC 220PF	J	TXU
C3 ,4			CC45FSL1H221J	CERAMIC 220PF	J	UEM
C3 ,4			CC45FSL1H331J	CERAMIC 330PF	J	EEF
C5 ,6			CK45FB1H102K	CERAMIC 1000PF	K	TXUUEM
C5 ,6			CK45FB1H152K	CERAMIC 1500PF	K	
C7 ,8			CE04KW1V100M	ELECTR0 10UF	35WV	EEF
C9 ,10			CF92FV1H123J	MF 0.012UF	J	
C11 ,12			CF92FV1H332J	MF 3300PF	J	
C13 ,14			CE04KW1V4R7M	ELECTR0 4.7UF	35WV	
C15 ,16			CK45FB1H471K	CERAMIC 470PF	K	
C17 ,18			CE04KW1HR47M	ELECTR0 0.47UF	50WV	
C19 ,20			CE04KW1V4R7M	ELECTR0 4.7UF	35WV	
C23 -40			CC45FSL1H221J	CERAMIC 220PF	J	
C41 ,42			CK45FF1H103Z	CERAMIC 0.010UF	Z	
C43 ,44			CF92FV1H222J	MF 2200PF	J	
C45 ,46			CF92FV1H473J	MF 0.047UF	J	
C47 ,48			CK45FB1H102K	CERAMIC 1000PF	K	
C49 ,50			CC45FSL1H101J	CERAMIC 100PF	J	
C51 ,52			CK45FF1H103Z	CERAMIC 0.010UF	Z	
C53 ,54		*	C90-1745-05	ELECTR0 3300MF	42WV	
C55			CE04KW1E222M	ELECTR0 2200UF	25WV	
C56			CE04KW1E221M	ELECTR0 220UF	35WV	
C57			CE04KW1V100M	ELECTR0 10UF	35WV	
C58			CE04KW1V220M	ELECTR0 22UF	35WV	

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## PARTS LIST

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Ref. No.	Address	New Parts	Parts No.	Description	Res-tation	Re-marks
参照番号	位 置	新	部 品 番 号	部 品 名 / 規 格	仕 向	備 考
C59			CK45FB1H102K	CERAMIC 1000PF K		
C60			CE04KW1C470M	ELECTR0 47UF 16WV		
C61			CE04KW1A470M	ELECTR0 47UF 10WV		
C62			CE04KW1C470M	ELECTR0 47UF 16WV		
C63			CE04KW1A470M	ELECTR0 47UF 10WV		
C64			CE04KW1V220M	ELECTR0 22UF 35WV		
C65			CK45FB1H102K	CERAMIC 1000PF K		
C66			CE04KW1C470M	ELECTR0 47UF 16WV		
C67			CE04KW1H102M	ELECTR0 1000UF 50WV		
C68			CE04KW1V100M	ELECTR0 10UF 35WV		
C70			CE04KW1A101M	ELECTR0 100UF 10WV		
C71 ,72			CK45FF1H103Z	CERAMIC 0.010UF Z		
C77 ,78			CE04KW1C101M	ELECTR0 100UF 16WV		
C79 -82			CE04KW1C470M	ELECTR0 47UF 16WV		
C83			C90-1351-05	NP-ELEC 3.3UF 50WV		
C84 -86			CK45FF1H103Z	CERAMIC 0.010UF Z		
C87			CE04KW1H010M	ELECTR0 1.0UF 50WV		
C88			C91-0023-05	CERAMIC 0.01UF AC250V	UUEM	
C88			C91-0647-05	CERAMIC 0.01UF P	ETXEE	
C89			CE04KW1J100M	ELECTR0 10UF 63WV		
C90			CE04KW1C470M	ELECTR0 47UF 16WV		
C91			CE04KW1H010M	ELECTR0 1.0UF 50WV		
C92			CK45FB1H561K	CERAMIC 560PF K		
C93			CK45FB1H102K	CERAMIC 1000PF K		
C94 ,95			CK45FB1H561K	CERAMIC 560PF K	EE1	
C94 ,95			CK45FB1H561K	CERAMIC 560PF K	EE	
C96			CE04KW1A101M	ELECTR0 100UF 10WV		
CN1			E10-1507-05	FLAT CABLE CONNECTOR		
CN2			E10-1907-05	FLAT CABLE CONNECTOR		
E2			E13-0820-05	PHONE JACK (AUX,VIDEO,ADAPTOR)		
E4			E13-0634-05	PHONE JACK (6P)DAT.TAPE		
E5			E11-0188-05	MINIATURE PHONE JACK(4P)SYNCR0		
E6			E08-0411-05	RECTANGULAR RECEPTACLE(T0 DECK		
E7			E20-0475-05	LOCK TERMINAL BOARD (SPEAKERS)		
E8			E11-0160-05	PHONE JACK (7P)		
E1 ,3			E13-0446-05	PHONE JACK (4P) PHONE,DAT		
W4,W5			J19-1394-05	PIN ASSY		
F1			F05-1222-05	FUSE (SEMKG) (250V T1,25A)	ETXEE	
F1 ,2			F05-1629-05	FUSE (250V 1.6A)	UUEM	
F2			F05-2525-05	FUSE (SEMKG) (250V T2,5A)	EEF	
F3			F04-2026-05	FUSE (250V 2A)	UUEM	
F3			F06-2021-05	FUSE (SEMKG) (250V T2A)	ETXEE	
L1 ,2			L39-0085-05	PHASE-COMPENSATION COIL		
T1			L01-5412-05	POWER TRANSFORMER	ETXEE	
T1			L01-5413-05	POWER TRANSFORMER	UUEM	
G			N09-0333-05	TAPPING SCREW (3X12)		
CP1 ,2			R90-0187-05	MULTI-COMP 0.22X2 K 5W		
R73 -76			RD14AB2E221J	FL-PROOF RD 220 J 1/4W	ETEE	
R73 -76			RD14AB2E221J	FL-PROOF RD 220 J 1/4W	XUUEM	
R77 -80			RD14AB2E2R2J	FL-PROOF RD 2.2 J 1/4W	ETEE	
R77 -80			RD14AB2E2R2J	FL-PROOF RD 2.2 J 1/4W	XUUEM	
R85 -86			RS14DB3D100J	FL-PROOF RS 10 J 2W	ETEE	
R85 -86			RS14DB3D100J	FL-PROOF RS 10 J 2W	XUUEM	

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Ref. No.	Address	New Parts	Parts No.	Description	Destination	Remarks
参照番号	位置	新	部品番号	部品名 / 規格	仕向	備考
R87 ,88			RD14AB2E100J	FL-PR00F RD 10	J 1/4W	ETEF
R87 ,88			RD14AB2E100J	FL-PR00F RD 10	J 1/4W	XUUEM
R95 ,96			RS14DB3A561J	FL-PR00F RS 560	J 1W	ETEF
R95 ,96			RS14DB3A561J	FL-PR00F RS 560	J 1W	XUUEM
R102			RS14DB3A221J	FL-PR00F RS 220	J 1W	ETEF
R102			RS14DB3A221J	FL-PR00F RS 220	J 1W	XUUEM
R106			RD14AB2E101J	FL-PR00F RD 100	J 1/4W	ETEF
R106			RD14AB2E101J	FL-PR00F RD 100	J 1/4W	XUUEM
R110			RD14AB2E101J	FL-PR00F RD 100	J 1/4W	ETEF
R110			RD14AB2E101J	FL-PR00F RD 100	J 1/4W	XUUEM
R126,127			RS14DB3A821J	FL-PR00F RS 820	J 1W	ETEF
R126,127			RS14DB3A821J	FL-PR00F RS 820	J 1W	XUUEM
R128,129			RD14AB2E470J	FL-PR00F RD 47	J 1/4W	ETEF
R128,129			RD14AB2E470J	FL-PR00F RD 47	J 1/4W	XUUEM
R136,137			RD14AB2E100J	FL-PR00F RD 10	J 1/4W	ETEF
R136,137			RD14AB2E100J	FL-PR00F RD 10	J 1/4W	XUUEM
R140			RD14AB2E100J	FL-PR00F RD 10	J 1/4W	ETEF
R140			RD14AB2E100J	FL-PR00F RD 10	J 1/4W	XUUEM
R141			RS14DB3D332J	FL-PR00F RS 3.3K	J 2W	ETEF
R141			RS14DB3D332J	FL-PR00F RS 3.3K	J 2W	XUUEM
R142			RD14AB2E100J	FL-PR00F RD 10	J 1/4W	ETEF
R142			RD14AB2E100J	FL-PR00F RD 10	J 1/4W	XUUEM
VR1 ,2			R12-1083-05	TRIMMING PWT. (IDEL CURRENT)		
K1		*	S51-1053-05	MAGNETIC RELAY		
S1		*	S31-3010-05	SLIDE SWITCH		XUUEM
D5 -40			H5S104	D10DE		ET
D5 -40			H5S104	D10DE		XUUEM
D5 -40			1S5133	D10DE		ET
D5 -40			1S5133	D10DE		XUUEM
D41 ,42			H5S104A	D10DE		ET
D41 ,42			H5S104A	D10DE		XUUEM
D41 ,42			1S5131	D10DE		XUUEM
D41 ,42			1S5131	D10DE		ET
D41 ,42			1S5131	D10DE		XUUEM
D51			D35BA20F03	D10DE		
D51			RBV-402LFA	D10DE		
D52 -55			S5566B	D10DE		ET
D52 -55			S5566B	D10DE		XUUEM
D52 -55			1N4004	D10DE		EE
D56			HZS13N(B2)	ZENER D10DE		XUUEM
D56			RD13ES(B2)	ZENER D10DE		XUUEM
D56 ,57		*	BZX55-C13	D10DE		EE
D56 ,57			HZS13N(B2)	ZENER D10DE		RTY
D56 ,57			RD13ES(B2)	ZENER D10DE		RTA
D57			HZS11N(B2)	ZENER D10DE		XUUEM
D57			RD11ES(B2)	ZENER D10DE		XUUEM
D58		*	BZX55-C6V8	ZENER D10DE		EE
D58			HZS6.8N(B2)	ZENER D10DE		ET
D58			HZS6.8N(B2)	ZENER D10DE		XUUEM
D58			RD6.8ES(B2)	ZENER D10DE		ET
D58			RD6.8ES(B2)	ZENER D10DE		XUUEM
D59 -62			S5566B	D10DE		ET
D59 -62			S5566B	D10DE		XUUEM
D59 -62			1N4004	D10DE		EE

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参照番号	位置	新	部品番号	部品名 / 規格	仕向	備考
D63 .64			HSS104A	DIODE	ET	
D63 .64			HSS104A	DIODE	XUUEM	
D63 .64			1SS131	DIODE	ETX	
D63 .64			1SS131	DIODE	XUUEM	
D65			BZX55-C6V2	DIODE	EF	
D65			HZS6. 2N(B2)	ZENER DIODE	ET	
D65			HZS6. 2N(B2)	ZENER DIODE	XUUEM	
D65			RD6. 2ES(B2)	ZENER DIODE	ET	
D65			RD6. 2ES(B2)	ZENER DIODE	XUUEM	
D66 .67			1N4148	DIODE	EF	
D66 .67			1SS133	DIODE	ET	
D66 .67			1SS133	DIODE	XUUEM	
D68		*	BZX55-C3V9	ZENER DIODE	EF	
D68			HZS3. 9N(B2)	ZENER DIODE	ET	
D68			HZS3. 9N(B2)	ZENER DIODE	XUUEM	
D68			RD3. 9ES(B2)	ZENER DIODE	ET	
D68			RD3. 9ES(B2)	ZENER DIODE	XUUEM	
D69			S5566B	DIODE	ET	
D69			S5566B	DIODE	XUUEM	
D69			1N4004	DIODE	EF	
D70 -83			1N4148	DIODE	EE	
D70 -83			1N4148	DIODE	MX	
D70 -83			1SS133	DIODE	ET	
D70 -83			1SS133	DIODE	XUUEM	
D84			S5566B	DIODE	ET	
D84			1N4004	DIODE	XUUEM	
IC1 .2			MS21BP-A	IC (8P AMP X2)	EF	
IC3			TC9163N	IC (BILATERAL SWITCH X16)		
IC4			TC9164N	IC (16CH BILATERAL SELECTOR SW)		
Q1 .2			2SC3244	TRANSISTOR		
Q3 .4			2SA1284	TRANSISTOR		
Q5 .6			2SC1845 (F.E)	TRANSISTOR		
Q7 .8			2SC4137	TRANSISTOR		
Q9 .10			2SC3853*5	TRANSISTOR		
Q11 .12			2SA1489*5	TRANSISTOR		
Q13 .14			2SC2878 (B)	TRANSISTOR		
Q21			2SD1266	TRANSISTOR		
Q22 .23			JC501 (P,Q)	TRANSISTOR	EF	
Q22 .23			2SC1740S (Q,R)	TRANSISTOR	ET	
Q22 .23			2SC1740S (Q,R)	TRANSISTOR	XUUEM	
Q22 .23			2SC945 (A) (Q,P)	TRANSISTOR	ET	
Q22 .23			2SC945 (A) (Q,P)	TRANSISTOR	XUUEM	
Q24			JA101 (P,Q)	TRANSISTOR	EF	
Q24			2SA733 (A) (Q,P)	TRANSISTOR	ET	
Q24			2SA733 (A) (Q,P)	TRANSISTOR	XUUEM	
Q24			2SA933S (Q,R)	TRANSISTOR	ET	
Q24			2SA933S (Q,R)	TRANSISTOR	XUUEM	
Q25			2SD1266	TRANSISTOR		
Q26			JA101 (P,Q)	TRANSISTOR	EF	
Q26			2SA733 (A) (Q,P)	TRANSISTOR	ET	
Q26			2SA733 (A) (Q,P)	TRANSISTOR	XUUEM	
Q26			2SA933S (Q,R)	TRANSISTOR	ET	
Q26			2SA933S (Q,R)	TRANSISTOR	XUUEM	
Q27			2SD1266	TRANSISTOR		

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参照番号	位置	新	部品番号	部品名 / 規格	仕向	備考
Q28			2SC2003 (L,K)	TRANSISTOR		
Q29			JC501 (P,Q)	TRANSISTOR	EF	
Q29			2SC1740S (Q,R)	TRANSISTOR	ET	
Q29			2SC1740S (Q,R)	TRANSISTOR	XUUEM	
Q29			2SC945 (A) (Q,P)	TRANSISTOR	ET	
Q29			2SC945 (A) (Q,P)	TRANSISTOR	XUUEM	
Q31 .32			JA101 (P,Q)	TRANSISTOR	EF	
Q31 .32			2SA733 (A) (Q,P)	TRANSISTOR	ET	
Q31 .32			2SA733 (A) (Q,P)	TRANSISTOR	XUUEM	
Q31 .32			2SA933S (Q,R)	TRANSISTOR	ET	
Q31 .32			2SA933S (Q,R)	TRANSISTOR	XUUEM	
Q31 .32			2SA933S (Q,R)	TRANSISTOR		
Q33			2SD1266	TRANSISTOR		
Q34			JA101 (P,Q)	TRANSISTOR	EF	
Q34			2SA733 (A) (Q,P)	TRANSISTOR	ET	
Q34			2SA733 (A) (Q,P)	TRANSISTOR	XUUEM	
Q34			2SA933S (Q,R)	TRANSISTOR	ET	
Q34			2SA933S (Q,R)	TRANSISTOR	XUUEM	
Q35			JC501 (P,Q)	TRANSISTOR	EF	
Q35			2SC1740S (Q,R)	TRANSISTOR	ET	
Q35			2SC1740S (Q,R)	TRANSISTOR	XUUEM	
Q35			2SC945 (A) (Q,P)	TRANSISTOR		
Q35			2SC945 (A) (Q,P)	TRANSISTOR	XUUEM	
Q35			2SC945 (A) (Q,P)	TRANSISTOR	ET	
Q36			2SC2003 (L,K)	TRANSISTOR	XUUEM	
DISPLAY UNIT (X14-237x-xx, X14-238x-xx)						
D38			B30-0483-05	LED (SLP-170B)		
D40 -45			B30-0483-05	LED (SLP-170B)		
D47			B30-0483-05	LED (SLP-170B)		
D54			B30-1012-05	LED (SLP-981C-50)		
C1			CE04JW1HR47M	ELECTOR 0.47UF 50WV		
C2			CK45FF1H103Z	CERAMIC 0.010UF Z		
C4			C91-0937-05	BACKUP 0.047F 5.5WV		
C5 .6			CC45FCH1H330J	CERAMIC 33PF J		
C7			CK45FF1H103Z	CERAMIC 0.010UF Z		
C8			CE04KW1V100M	ELECTOR 10UF 35WV		
C9 .10			CE04KW1H4R7M	ELECTOR 4.7UF 50WV		
C11			CF92FV1H104J	MF 0.10UF J		
C12			CK45FF1H103Z	CERAMIC 0.010UF Z		
C13			CE04KW1C470M	ELECTOR 47UF 16WV		
C14 .15			CK45FF1H103Z	CERAMIC 0.010UF Z		
C16			CF92FV1H104J	MF 0.10UF J		
C17			C90-1353-05	NP-ELEC 10UF 25WV		
C18			CF92FV1H104J	MF 0.10UF J		
C21 .22			CE04KW1H010M	ELECTOR 1.0UF 50WV		
C23 .24			CC45FSL1H221J	CERAMIC 220PF J		
C27 .28			CE04KW1H4R7M	ELECTOR 4.7UF 50WV		
C29 -32			CE04KW1H010M	ELECTOR 1.0UF 50WV		
C33 -36			CF92FV1H473J	MF 0.047UF J		
C37 .38			CE04KW1H100M	ELECTOR 10UF 50WV		
C39 .40			CK45FB1H102K	CERAMIC 1000PF K		
C46			CE04JW1E3R3M	ELECTOR 3.3UF 25WV		
C48 .49			CE04KW1C470M	ELECTOR 47UF 16WV		
CN1		*	E10-1015-05	FLAT CABLE CONNECTOR		
CN2		*	E10-1908-05	FLAT CABLE CONNECTOR		

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CNS E1	2B		E10-1507-05 E11-0160-05	FLAT CABLE CONNECTOR PHONE JACK (7P) PHONES		
X1 X2			L77-1118-05 L78-0218-05	CRYSTAL RESONATOR RESONATOR		
CP1 CP2 CP3 R161, 162 VR1			R90-0229-05 R90-0291-05 R90-0805-05 RD14GB2E100J R29-5023-05	MULTI-COMP 10KX8 J 1/6W MULTI-COMP 100KX4 J 1/6W MULTI-COMP 10KX8 J 1/4W FL-PROOF RD 10 J 1/4W POTENTIOMETER (VOLUME)		
VR2 VR4 .5			R05-5025-05 R10-3029-05	POTENTIOMETER (BALANCE) POTENTIOMETER (TREBLE, BASS)		
S1 S3 -10 S13 S15 -32 S34 -39			S40-1064-05 S40-1064-05 S40-1064-05 S40-1064-05 S40-1064-05	PUSH SWITCH (POWER) PUSH SWITCH PUSH SWITCH (MUTE) PUSH SWITCH PUSH SWITCH	XUUEM	
S34 -44 S41 -44			S40-1064-05 S40-1064-05	PUSH SWITCH PUSH SWITCH	ETEF XUUEM	
D1 D1 D1 D1 D1			BZX55-C6V2 HZS6.2N(B2) HZS6.2N(B2) RD6.2ES(B2) RD6.2ES(B2)	DIODE ZENER DIODE ZENER DIODE ZENER DIODE ZENER DIODE	EF ET XUUEM ET XUUEM	
D2 D2 D3 -11 D3 -11 D3 -11			HSS104A 1SS131 HSS104 1N4148 1SS133	DIODE DIODE DIODE DIODE DIODE	ET EF ET	J J S
D3 -8 D3 -8 D3 -8 D10 D10			HSS104 HSS104 1SS133 HSS104 1SS133	DIODE DIODE DIODE DIODE DIODE	XUUEM XUUEM XUUEM XUUEM XUUEM	J S S
D11 D12 -24 D13 -24 D13 -24 D13 -24			1SS133 HSS104 HSS104 1N4148 1SS133	DIODE DIODE DIODE DIODE DIODE	XUUEM UUEM ETX EF	S J J S
D28 D28 D28 D28 D35			HSS104 HSS104 1N4148 1SS133 HSS104	DIODE DIODE DIODE DIODE DIODE	ETXUUE M EF ETXUUE	J J J S J
D35 D35 D35 D49 .50 D49 .50			HSS104 1N4148 1SS133 HSS104 HSS104	DIODE DIODE DIODE DIODE DIODE	M EF ETXUUE M	J J S J J
D49 .50 D49 .50 D55 D55 D66 -68			1N4148 1SS133 HZS5.1S(B2) RDS.1JS(B2) HSS104	DIODE DIODE ZENER DIODE ZENER DIODE DIODE	EF XUUEM EF ET XUUEM	S S J J J

EF: France Made  
EF1: France Made (R-42XL)  
EF2: France Made (R-42L)  
E1: Scandinavia Europe (R-42XL)  
E2: Scandinavia Europe (R-42L)

E: Scandinavia & Europe K: USA P: Canada  
U: PX(Far East, Hawaii) T: England M: Other Areas  
UE: AAFES(Europe) X: Australia

⚠ indicates safety critical components.

## PARTS LIST

\* New Parts

Parts without Parts No. are not supplied.

Les articles non mentionnés dans le Parts No. ne sont pas fournis.

Teile ohne Parts No. werden nicht geliefert.

Ref. No. 参照番号	Address 位置	New Parts 新	Parts No. 部品番号	Description 部品名/規格	Desti- nation 仕向	Re- marks 備考
D66 -68 D66 -68 D66 -68 D72 D72			HSS104 1N4148 1SS133 HSS104 HSS104	DIODE DIODE DIODE DIODE DIODE	M EF	J J S J J
D72 D72 FL1 IC1 IC2			1N4148 1SS133 FIP12PM7A CXP5016-3110 CXP5016-3135	DIODE DIODE FLUORESCENT INDICATOR TUBE IC(MICROPROCESSOR) IC(MICROPROCESSOR)	EE	S
IC3 IC4 IC4 IC5 Q1 .2			LB1641 MS218P-A NJM4560D-A MS19S1ASL 2SA937F	IC(MOTOR DRIVER) IC(OP AMP X2) IC(OP AMP X2) IC(SYSTEM RESET) TRANSISTOR	UUEM	
Q2 Q3 Q3 Q3 Q3			2SA937F JC501(P,Q) 2SC1740S(Q,R) 2SC1740S(Q,R) 2SC945(A)(Q,P)	TRANSISTOR TRANSISTOR TRANSISTOR TRANSISTOR TRANSISTOR	ETXEF EF ET XUUEM ET	
Q3 Q5 Q5 Q5 Q5			2SC945(A)(Q,P) JC501(P,Q) 2SC1740S(Q,R) 2SC1740S(Q,R) 2SC945(A)(Q,P)	TRANSISTOR TRANSISTOR TRANSISTOR TRANSISTOR TRANSISTOR	XUUEM EF ET XUUEM ET	
Q5 Q13 .14 Q15 .16			2SC945(A)(Q,P) 2SC2021F 2SA937F	TRANSISTOR TRANSISTOR TRANSISTOR	XUUEM	J
A1			WQ2-0910-05	ELECTRIC CIRCUIT MODULE		
<b>POWER AMPLIFIER UNIT (X85-116x-xx)</b>						
C1 .2 C3 .4 C5 .6 C7 .8 C9 .10			CE04KW1H010M CC45FSL1H221J CE04KW1C470M CC45FSL1H680J CC45FSL1H020C	ELECTRO 1.0UF 50WV CERAMIC 220PF J ELECTRO 47UF 16WV CERAMIC 68PF J CERAMIC 2.0PF C		
C11 -14 C15 .16 C17 .18 C19 C20			CC45FSL1H680J CC45FSL1H221J CE04KW1H470M CE04KW1C470M CE04KW1E330M	CERAMIC 68PF J CERAMIC 220PF J ELECTRO 47UF 50WV ELECTRO 47UF 16WV ELECTRO 33UF 25WV		
C21			CE04KW1H2R2M	ELECTRO 2.2UF 50WV		
R15 .16 R15 .16 R21 -24 R21 -24 R25 .26			RD14AB2E271J RD14AB2E271J RD14AB2E221J RD14AB2E221J RD14AB2E470J	FL-PROOF RD 270 J 1/4W FL-PROOF RD 270 J 1/4W FL-PROOF RD 220 J 1/4W FL-PROOF RD 220 J 1/4W FL-PROOF RD 47 J 1/4W	ETEF XUUEM ETEF XUUEM ETEF	
R25 .26			RD14AB2E470J	FL-PROOF RD 47 J 1/4W	XUUEM	
D1 .2 D1 .2 D1 .2 D1 .2 D1 .2			HSS104 HSS104 1N4148 1SS133 1SS133	DIODE DIODE DIODE DIODE DIODE	ET XUUEM EF ET XUUEM	

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D3 ,4 D3 ,4 D3 ,4 D3 ,4 D5			HSS104A HSS104A 1SS131 1SS131 HSS104	DIODE DIODE DIODE DIODE DIODE	ET XUJEM ETX UJEM ETUJEM	
D5 D5 D5 D5 D5			HSS104 HSS104 1N4148 1SS133 1SS133	DIODE DIODE DIODE DIODE DIODE	E2T2 XUJEM EF ET XUJEM	
Q1 -4 Q5 -8 Q9 ,10 Q11 ,12 Q11 ,12			2SA992(F,E) 2SC1845(F,E) 2SA992(F,E) JC501(P,Q) 2SC1740S(Q,R)	TRANSISTOR TRANSISTOR TRANSISTOR TRANSISTOR TRANSISTOR	EF ET	
Q11 ,12 Q11 ,12 Q11 ,12 Q13			2SC1740S(Q,R) 2SC945(A) (Q,P) 2SC945(A) (Q,P) 2SA992(F,E)	TRANSISTOR TRANSISTOR TRANSISTOR TRANSISTOR	XUJEM ET XUJEM	

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## SPECIFICATIONS

## Tuner Amplifier (R-42/R-42L/R-42XL)

## Audio section

## Power Output

25 watts per channel minimum RMS, both channels driven, at 8 ohms from 40 Hz to 20,000 Hz with no more than 0.09% total harmonic distortion.

## Maximum continuous output power

(IEC) from 63 Hz to 12,500 Hz

0.7% THD at 8 ohms ..... 30 W+30 W

(DIN) 1,000 Hz at 8 ohms ..... 33 W+33 W

## Total Harmonic Distortion

at rated output (8 ohms 1 kHz) ..... 0.007%

## Signal-to-Noise ratio (IHF-A)

PHONO MM (2.5 mV) ..... 70 dB

TUNER, AUX, TAPE PLAY ..... 98 dB

## Tone Control

Bass ..... ±10 dB at 100 Hz

Trebble ..... ±10 dB at 10 kHz

## Input sensitivity/impedance

PHONO MM ..... 2.0 mV/47 kohms

TUNER, AUX, TAPE PLAY ..... 135 mV/47 kohms

## Tuner section

## FM tuner section (IHF)

Tuning frequency range ..... 87.5 MHz—108 MHz

Usable sensitivity MONO ..... 0.95  $\mu$ V, 10.8 dBf

## Total harmonic distortion

MONO: ..... 0.4%

STEREO: ..... 0.4%

## Signal-to-Noise ratio

MONO: ..... 78 dB

STEREO: ..... 71 dB

Alternate channel selectivity (±400 kHz) ..... 56 dB

Stereo separation at 1 kHz ..... 40 dB

## Frequency response

30 Hz—15,000 Hz ..... +0.5 dB, -2.5 dB

## Note:

KENWOOD follows a policy of continuous advancements in development. For this reason specifications may be changed without notice.

## Note:

Component and circuitry are subject to modification to insure best operation under differing local conditions. This manual is based on the Europe (E) standard, and provides information on regional circuit modification through use of alternate schematic diagrams, and information on regional component variations through use of parts list.

## AM tuner section (R-42)

## Tuning frequency Range

9 kHz step ..... 531 kHz—1602 kHz

10 kHz step ..... 530 kHz—1610 kHz

Usable sensitivity ..... 14  $\mu$ V (500  $\mu$ V/m)

Signal-to-Noise ratio ..... 49 dB

Total harmonic distortion ..... 0.6%

Selectivity ..... 23 dB

## MW tuner section (R-42L/R-42XL)

Tuning Frequency Range ..... 531 kHz—1602 kHz

Usable sensitivity ..... 14  $\mu$ V (500  $\mu$ V/m)

Signal-to-Noise ratio ..... 49 dB

Total harmonic distortion ..... 0.6%

Selectivity ..... 23 dB

## LW tuner section (R-42L/R-42XL)

Tuning frequency range ..... 153 kHz—281 kHz

Usable sensitivity ..... 17  $\mu$ V (800  $\mu$ V/m)

Signal-to-Noise ratio ..... 47 dB

Total harmonic distortion ..... 0.6%

Selectivity ..... 30 dB

## General

Power consumption ..... 90 W

Dimensions ..... W:360 mm (14 3/16)

H: 196 mm (7 11/16)

D: 356 mm (14)

Weight (Net) ..... 6.9 kg 15.2 lb

## Remote control unit (RC-32/RC-62)

Maximum remote-controllable distance ..... 6 m

(on an axis of optical sensor)

Remote control system ..... Infrared control system

Battery for remote control unit ..... Size "AA" (R6) × 2

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